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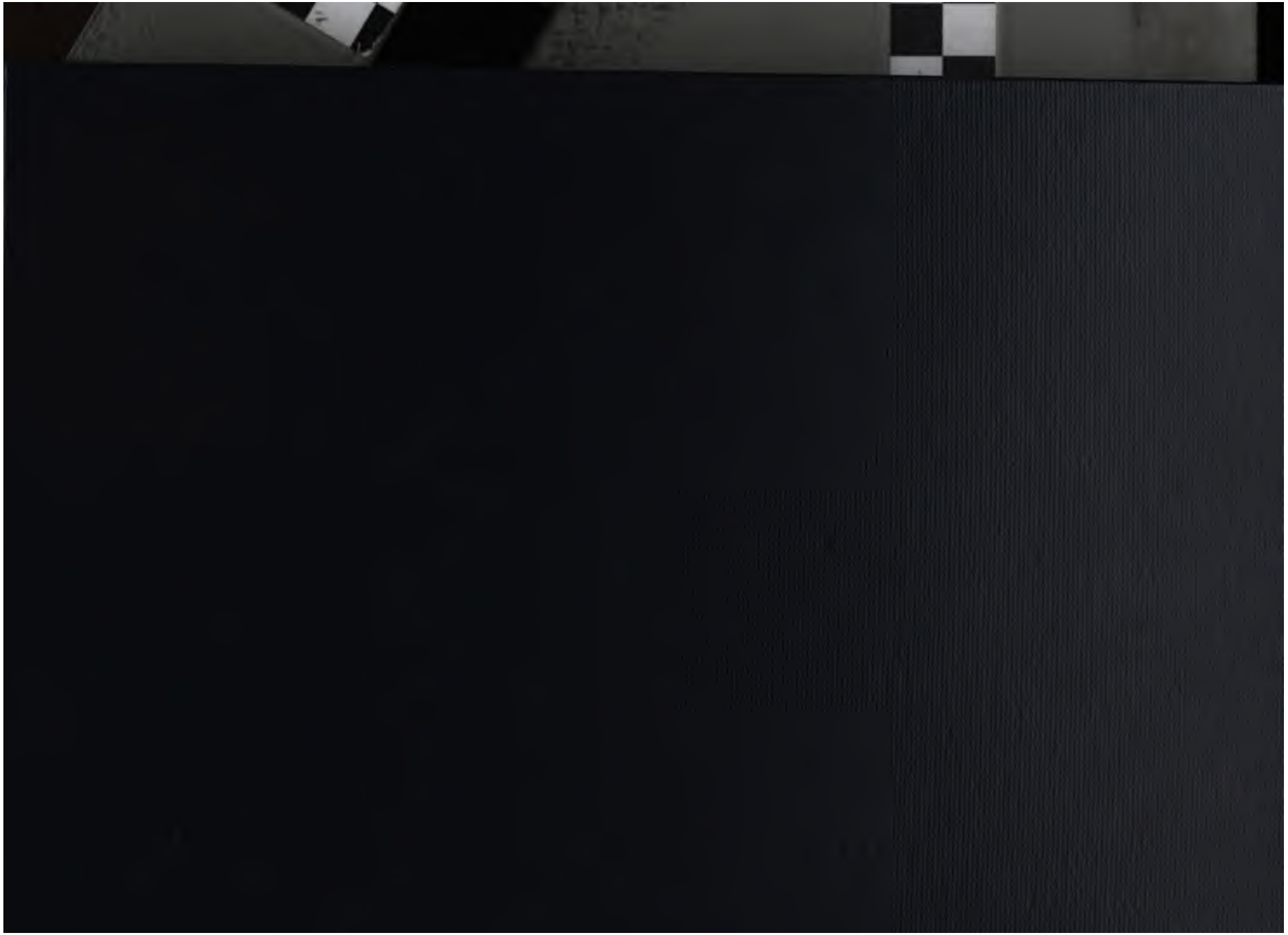

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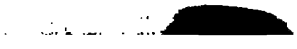

MISSION

OF THE

NORTH AMERICAN PEOPLE,

GEOGRAPHICAL, SOCIAL, AND POLITICAL.

ILLUSTRATED BY SIX CHARTS

DELINEATING THE PHYSICAL ARCHITECTURE AND THERMAL LAWS OF ALL THE CONTINENTS.

BY

WILLIAM GILPIN,

LATE GOVERNOR OF COLORADO.

SECOND EDITION—REVISED.

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INTRODUCTION.

THIS volume is the reproduction of its predecessor, which appeared in 1860. This short interval, although checkered by war, is illuminated by stupendous achievements in the direction whither the energies of the people were invited.

The vivacity with which *labor*, intelligence, and moderation, in concert and alliance, march and expand in force and volume, is amazing and glorious. Nothing in sight predicts any serious check to this *tidal* flood, on which is borne every department and detail of PROGRESS.

The aim here is to grasp facts as they are; to reject delusions which have grown senile. No special chapter is here assigned to the *Western Cordillera* (the Sierra Nevada), because its general profile, its *thermal* features, and its continuity are everywhere referred to and described.

Much that has been proposed and asked from the people in the former volume is now fully completed and has gone into history. Everything else is coming with assured certainty and celerity.

In the former preface I have given expression fully to my faith and hopes. These I retain and repeat with fortified confidence and conviction.

DENVER, June 1 1873.

THE

CENTRAL GOLD REGION.

THE

GRAIN, PASTORAL, AND GOLD REGIONS

OF

NORTH AMERICA.

WITH

SOME NEW VIEWS OF ITS PHYSICAL GEOGRAPHY, AND OBSERVATIONS ON THE PACIFIC RAILROAD.

BY

WILLIAM GILPIN,

LATE OF THE UNITED STATES ARMY.

FIRST PUBLISHED IN 1860.

PREFACE.

EVERYBODY is acquainted with the history of the American people. Their commonwealth, commenced at first by a few republican families voluntarily exiled from the Old World, is now, at the end of two and a half centuries, a republican empire of established *continental* dimensions and policy.

Restricted heretofore in its development to so much of our continent as belongs to the Atlantic, a point of progress is reached, whence our energies, overflowing towards the west, expand to embrace the regions of the Pacific Ocean and establish direct and familiar relations with Asia.

This movement, long in preparation, now engages so large a force that its advance daily acquires volume and celerity. *Federal legislation*, to progress *pari passu* with the people, is demanded upon a basis to give effect to the great *central* movement resulting from their energies. A liberal understanding of the mission of our people, counsels a genial expansion of the *federal system* to the grandest dimensions which their energies may reach.

I have condensed into a small volume, the memoranda and reflections suggested by a residence of twenty years in the wilderness: and in the midst of the pioneer people who occupy the foreground of progress, and clear open the track of empire. ⌐ c. & page 1860 ed. ⌙

I distinguish, as the most essential present ground of development, the interval which separates the Mississippi Basin from the Pacific Ocean. This defines itself as the "*Mountain System*" of our geography.

The magnitude of the obstacles which it opposes to the forces of progress assembled on its two fronts, sanctions an appeal to every form of

help discernible to the patriotic heart. This needed help is, in short, the construction of the *Continental Railroad.*

Two auspicious elements in human civilization, by their rapid growth in power and importance, fix our attention,—the indefinite multiplication of gold coin, and international public works.

These *two* elements, so operating as to mutually stimulate and sustain each other, promise to enthrone *industrial organization* as the ruling principle of nations.

America leads the host of nations as they ascend to this new order of civilization.

Her intermediate geographical position between Asia and Europe and their populations, invests her with the powers and duties of arbiter between them. Our continent is at once a barrier which separates the other two, yet fuses and harmonizes their intercourse in all the relations from which *force* is absent.

Human society is, then, upon the brink of a new order of arrangement, inspired by the universal instincts of peace, and is about to assume the grandest dimensions.

Fascinated by this vision, which I have seen appear and assume the solid form of a reality in less than half a generation, I discern in it a new power, *the People occupied in the wilderness*, engaged at once in extracting from its recesses the omnipotent element of *gold coin*, and disbursing it immediately for the *industrial* conquest of the world.

WILLIAM GILPIN.

INDEPENDENCE, April 7, 1860.

TABLE OF CONTENTS.

CHAPTER I.

THE MOUNTAIN FORMATION OF NORTH AMERICA—THE CORDILLERAS—THE PLATEAU—THE NORTH AMERICAN ANDES.

PAGE

Breadth—Length—Black Hills—Cordillera of the Sierra Madre—Gold-producing Granite—Pares—Plateau of Table Lands—Not comprehended by the American People—Basin of City of Mexico—Bolson di Mapimi—No Drainage—Sierra Mimbres—Basin of the Del Norte—Basin of the Colorado—Cañon of the Colorado—Basin of the Salt Lake—Basin of the Columbia—Basin of Frazer's River—Delicious Climate of the Plateau—Its Fertility—Cordillera of the Andes—Pacific Maritime Front..... 15

CHAPTER II.

THE CORDILLERA OF THE SIERRA MADRE—THE EASTERN CORDILLERA.

Mountain System of the Globe—The Andes—Their length, altitude, and auriferous wealth—Chain of the Mother Mountain—Its Rivers—Cañons—Mesas—Buttes—Llanos—Bayous or Pares—Elevation—Breadth—Wind River Mountain—South Pass—The Alps and their pass—Lava Plain of Snake River—Bowl of the Yellowstone—Plain of the South Pass—Sweetwater River—Table Mountain—Placers of gold and precious stones—Northern Pare or Bull-pen—Favorite winter home of trappers—Streams, meadows, flowers, groves, etc.—Middle Pare—Mountain spurs, rocky streams, cloudy atmosphere, snow-clad summits—Long's Peak—Southern Pare—Pike's Peak—Mountain barrier—No transit—Bayou San Luis—Sublime scenery, luxuriant fertility, agricultural seasons—Valley of Kashmere—Secondary mesas, or "*Llanos*"—Level surface, poor soil, rainless atmosphere—Perplexity of public mind—Llano Estacado and Llano of the Balsifeta—A continual terrace—Kansas Basin..... 24

CHAPTER III.

THE PLATEAU OF NORTH AMERICA.

Its area and characteristics—The column of central progress—Plateaux of the Old World—Plateau of American Table Lands not understood—Its basins—Climate uniformly vernal—Fertility of soil—Grasses make natural hay—Immense herds of cattle—Auriferous granite and gold placers—Irrigation—Prepared for an immediate dense population—Its physical characteristics—Geological formation—Mineralogical resources—Zone of civilization—Line of progress..... 34

CHAPTER IV.

THE SIERRA SAN JUAN.

PAGE

The gold and silver production of the world—Auriferous or gold-bearing formation—Calcareous formation—Iron, copper, lead—Focal culminations of the Sierra Madre—Pike's Peak—The Sierra Mimbres—Mining in the Andes—Stupendous effects of the internal volcanic powers of the globe—Abundance of the precious metals—Cañon of the Colorado—Gorgeous variety of scenery—Philosophy of metalliferous deposits—"Great North American Desert" does not exist—Humboldt's views—The Great Plateau the seat of empire of the ancient Mexicans—Remarkable focal culmination of the Sierra Mimbres in the Sierra San Juan—The column of pioneers upon its threshold..... 44

CHAPTER V.

THE SOUTH PASS OF AMERICA.

Route from Paris to Pekin—Distance and time reduced—The Plateau and two Cordilleras the only impediments—Basin of the Mediterranean and Basin of the Mississippi—The former salt water—The latter rich, calcareous, and arable soil—The former supported a population of one hundred and thirty-one millions—The latter capable of twelve hundred millions—Both the seats of empire in their respective continents—Both traversed by the zodiac of civilization—The South Pass—Its shape, size, and surface—Distance from Astoria and St. Louis—The only pass through the Mountain Formation hence to Tehuantepec—The great trail of the buffalo passes through it—Uninterrupted passage by the bed of great rivers both to the Atlantic and Pacific—Uniformity of climate from sea to sea—The great Continental line of empire here—The Pillars of Washington..... 54

CHAPTER VI.

THE GREAT BASIN OF THE MISSISSIPPI.

Its great river—Its surface a rich and deep sediment—Its climate—Line of timber—Line of grasses—Capacity for population—Geographical centre of the Basin and North American Continent at same point—Between and equidistant from the 259,000,000 population of Europe and the 650,000,000 population of Asia and Polynesia—Surface of Europe descends outwards from its centre—Also of Asia—Surface of North America like a bowl, gathering and centralizing whatever enters within its rim—The Basin of the Mississippi the amphitheatre of the world..... 64

CHAPTER VII.

PASTORAL AMERICA.

Great Plains of America *not* deserts—The Pastoral Garden of the world—Its surface a gentle slope to the east—Abounds in rivers—Covered with thick

PAGE

nutritious grasses and swarming with animal life—Soil not sandy, but a fine calcareous mould—Convenient to navigation—Climate dry, and temperature even—Herbage perennial, edible, and nutritious throughout the year, and cured into natural hay upon the ground—*Supports one hundred millions of wild cattle* —No fires as in prairies—Turkeys, chickens, water-fowl, fish, and game in great variety, abundant—Ample proportion of arable land for farms, fuel, building materials, etc.—Climate favorable to health and longevity—Animal food three-fifths of that of the human family—How produced spontaneously—Very little labor necessary for support—Pastoral agriculture on a large scale comparatively a new order of industry to our people—Destined to be of immense importance 71

CHAPTER VIII.

THE SYSTEM OF THE PARCS.

The Definition of Parc—Their Beauty and Grandeur—The Parcs of Colorado—San Luis Parc—Ease of Entrance and Departure—Mountains—Rivers—Extent —Climate—Valley of the City of Mexico—Pasturage of San Luis Parc—Alpine Vegetation—The Precious Metals—Normal Structure of the Cordillera—Of the Sierra Mimbres—Craters of Extinct Volcanoes—Pedrigals—Corritos—Walls of Lava—Productions of the Parcs—Medicinal Waters—Hot Springs—Irrigation —Accessibility—Health—Mexican Population 77

CHAPTER IX.

THERMAL AMERICA.

Magnitude of the New Powers and Fresh Forces—Thermal Science—Belt of Production—Aqueous Atmosphere—Aerial Atmosphere—Ethereal Atmosphere—Maritime Climate—Continental Climate—Region of the Piedmont—Influence of Vapors—Unfavorable Influence of Thermal Laws in Europe—The Gold Fever—The Land Question—Government Credits—The Financial Problem—Mistaken Legislation—Pastoral Agriculture—Industrial Organization—The Cosmopolitan Railway 91

CHAPTER X.

POWER.

New Forces in America—Influenced by Geographical Configuration—Force of the Pioneer Army—Machine Force of Great Britain—Sources of British Power—Its Weakness and Artificial Nature—Want of Elasticity—The Charitable and Civilizing Democratic Forces of America—Policy of Peace—Policy of Inductive Reason and Physical Science—Asia and Europe compared—Equilibrium—Unlimited Expansion—Perpetual Peace 99

CHAPTER XI.

THE NORTH AMERICAN MISSION.

PAGE

The Pioneer Army—The Continental Mission—The Southern Andes—The Northern Andes—Eastern and Western Cordilleras—Profile of the Andes—Simplicity of Structure—Longitudinal Position—The Calcareous Plain—Plateau—System of the Parcs—Enumeration—San Luis Parc—Alps of Europe—Convex Surface of Europe—Concave Surface of North America—Climate of Colorado—Isothermal Belt—Climate and Civilization..... 105

CHAPTER XII.

THE NORTH AMERICAN MISSION—CONTINUED.

The Oriental Slope of Asia—China—Its Imperfect Isothermal Zone—The Isothermal Zone of North America—Longitudinal Mountains—Populations of Asia and Europe—America Intermediate—Way-Travel of the Human Race—Geographical Progress—Social Progress—Gold Discoveries—City of Denver—March of the Pioneers—Overland Conquests—System of Natural Forces—Pastoral Agriculture..... 113

CHAPTER XIII.

THE NORTH AMERICAN MISSION—CONTINUED.

Geological Formation of the American Andes—Atmospheres—Maritime Climate—Continental Climate—Richness of Atmospheric Color—Vernal Temperature—Denver Cosmopolitan—Transportation by Railways—Tidal March of Population—London and the Oriental Commerce—Prospective Oriental Commerce of North America—Transacted and Untransacted Mission of the North American People—Conclusion..... 123

APPENDIX.

I.

MEXICAN WAR.

Remarks of Major William Gilpin, at the Barbecue given the Cole Infantry, at Jefferson City, Thursday, August 10, 1847..... 131

II.

SPEECH OF COLONEL WILLIAM GILPIN ON THE SUBJECT OF THE PACIFIC RAILWAY.

First spoken at the Camp of *Five Thousand* California Emigrants at *Wakarusa* (now the City of Lawrence), Kansas. Repeated at Independence, Missouri, at a Mass Meeting of the Citizens of Jackson County, held November 5, 1849..... 141

III.

PROCEEDINGS OF A MASS MEETING OF THE CITIZENS OF JACKSON COUNTY,

PAGE

At Independence, on the 5th of November, 1849, to respond to the Action of the Great National Railroad Convention, held in St. Louis on the 15th day of October, 1849..... 171

IV.

PIKE'S PEAK AND THE SIERRA SAN JUAN.

Extracts from an Address by Colonel William Gilpin, delivered at Kansas City, November 15, 1858; on the Gold Production of America and the Sierra San Juan..... 174

V.

GEOGRAPHICAL MEMORANDA ON THE PACIFIC RAILROAD.

Reproduced from the Pamphlet of 1856..... 184

VI.

THE HEMP-GROWING REGION.

Reproduced from the Pamphlet of 1856..... 208

VII.

AN ORATION.

Spoken by Honorable William Gilpin, to the Guests of the Fenian Brotherhood, at Denver, Colorado, July 4, 1868..... 215

LIST OF MAPS.

I.

MAP OF NORTH AMERICA.

Delineating the "Mountain System" and its *details*, The "Great Calcareous Plain" as a *unit*, and the continuous encircling "Maritime Selvage."

II.

MAP OF NORTH AMERICA.

In which are delineated the "Mountain System" as a *unit*, The "Great Calcareous Plain" and its *details*, and the continuous encircling "Maritime Selvage."

III.

THERMAL MAP OF NORTH AMERICA.

Delineating the Isothermal Zodiac, the Isothermal Axis of Intensity, and its expansions up and down the "PLATEAU."

IV.

MAP ILLUSTRATING THE SYSTEM OF THE PARCS

And the domestic relations of the "Great Plains," the "North American Andes," and the Pacific "Maritime Front."

V.

MAP OF THE WORLD.

Delineating the Contrasted *Longitudinal* and *Latitudinal* Forms of the Continents, the Isothermal Zodiac and Axis of Intensity, round the World, and the Line of the Cosmopolitan Railway and its Longitudinal Feeders.

VI.

MAP OF THE SYSTEM OF THE PARCS OF COLORADO.

THE MISSION

OF THE

NORTH AMERICAN PEOPLE.

CHAPTER I.

THE MOUNTAIN FORMATION OF NORTH AMERICA—THE CORDILLERAS—THE PLATEAU—THE NORTH AMERICAN ANDES.

I HAVE elsewhere given a sketch of one of the cardinal subdivisions of our continent and country, the GREAT PLAINS. I now proceed to sketch what is beyond them, and fills the space out to the Pacific Sea. This is the immense MOUNTAIN FORMATION OF NORTH AMERICA.

I approach the attempt to classify and set down this region with a degree of trepidation which I find it difficult to master. During the years of war and exploration which I have passed among them, every hour has kept alive the awe inspired by the immensity of the space they occupy, the grandeur of their bulk and altitude, and the sublime order and symmetry which pervade them as a system, and in the details. Moreover, no one, not even HUMBOLDT, has ever attempted to reduce them to a classic system, or assented to what I have done in the hydrographic map of 1845. These indelibly-graved impressions perpetually recur whenever my memory reverts to that time, and warn me to speak of countries so novel to a public little curious and uninformed, only after condensing their portrait with the maturest meditation and with nicely-guarded caution.

The mountain formation of North America is that distinct subdivision of its area which occupies the whole space from the Great Plains to the Pacific Sea, and covers two-sevenths of the continent. In its superficial

contents, bulk, number and variety of the mountain masses, it equals the aggregated mountains of all the other continents. It has peculiar characteristics, which render it more interesting than them all. Travelling transversely across from east to west along the thirty-ninth degree, the breadth is 1600 miles; the length, continuous from Tehuantepec to the Arctic Sea, is 4500 miles; the direction is regular from south-south-east to north-north-west. From east to west the traveller enters and crosses five physical divisions, as distinct in order and succession as are the prismatic streaks of the rainbow to the eye. These are: 1st. The Black Hills, or Eastern Piedmont; 2d. The Cordillera of the Sierra Madre (Rocky Mountain); 3d. The Plateau of the Table Lands, with its mountain chains; 4th. The Cordillera of the Snowy Andes (the Sierra Nevada); 5th. The Maritime Piedmont of the Pacific Shore. These divisions are parallel to one another like the streaks of the rainbow, and, like them, run throughout from end to end of the *mountain formation*, in which they are blended together in one embodied mass.

Beyond the longitudinal centre of the Great Plains, the undulations of the surface begin to swell up, until they become elevated into secondary mountains, with timber, and crowned with rocky escarpments. These are the BLACK HILLS. They are the outliers of the Sierra Madre, are in the Basin of the Mississippi, and, masking the mountain crest, break and graduate its descent. They are 300 miles in breadth, are perforated by all the great rivers, and are washed away and tortured into fragments by their channels. They have rocks of porphyritic granite and sandstone, but are for the most part formed of the sulphat eof lime, as gypsum or plaster of Paris.

Some of them are paved with petrifactions, and others, being composed of light mould, form the suspended matter of the rivers, which goes down to make the alluvial bottoms and delta of the Mississippi Basin. They have but little snow or rain, a scattered growth of dwarfed timber, and a picturesque and fantastic scenery. They are an important part of the pastoral region, are clothed in perennial grasses, and abound in aboriginal cattle. Perpetual sunshine, fertility, perfect health, pure and abundant water, ever-varying scenery, and infinite animal life, will, in time, attract and fix here the densest population.

Over the Black Hills rises the CORDILLERA OF THE SIERRA MADRE. This supreme Cordillera may be defined as the backbone of the world; it is the "*divortia aquarum*" of the American continent. From the snows of its immense crest and flanks descend the rivers that irrigate either face of the continent out to all the oceans. From it also branch off all the other mountain chains. Where the irrigation from the snows

is sufficient, immense forests exist; elsewhere the mountains are naked. The core or basis of the Sierra Madre is red porphyritic granite, from the immense naked masses of which comes the popular sobriquet of "Rocky Mountains." This is the gold-producing quarts. The Sierra Madre has precipitous mural flanks, which protrude outward as promontories, or recede to encase the courses of rivers and valleys. It has peaks, conical in shape and culminating by a sharp apex.

To those who view it in the horizon from below, this is its general appearance; but to those who ascend its ragged front and surmount its highest crest, this is found to be a *Mesa* or indefinite table land as level as a water surface. This Sierra Madre has its own characteristics, which are all of the grandest order. I am unable to illustrate it by comparison, because it stands supreme and alone, the standard to which all other mountain masses must be submitted. It is of the original mass of the globe, and has neither lava, nor craters, nor active volcanoes, nor traces of the igneous force within. It is *par excellence* primeval. Scooped out of its main mass are valleys of great size and beauty, which have received from the trappers the name of *Parcs*. These occur at regular intervals, alternately upon either flank, and mark the sources of the great rivers.

Those which I have seen are the Plain of the South Pass, surrounding the sources of the Rio Verde:—the North Parc, upon the Northern Platte or Nebraska River:—the Middle Parc, upon the Rio Grande of the West:—the South Parc, upon the Southern Platte:—the Parc of San Luis, upon the Rio del Norte. These remarkable valleys are all secluded within the main dorsal mass of the Cordillera, and are of great size, fertility, and beauty. They resemble those reservoirs of the Alpine torrents of Switzerland (Geneva and Constance), out of which issue the rivers Rhone and Rhine: and the valley of Kashmere, through which the Indus flows; though they contain no lakes.

They are the paradise of the aboriginal herds, with which they swarm at all seasons, and are the favorite retreats of the Indians. To define the exact width of the primary Cordillera, and mark the line where it fades into the Black Hills upon the east, and into the Plateau of the Table Lands upon the west, is not easy; but it varies from 100 to 250 miles, according as it expands into salient promontories, or recedes to give passage to the rivers.

We next descend on to the third division, which is the PLATEAU OF THE TABLE LANDS. This expands onward to the Cordillera of the Snowy Andes. I speak again with great diffidence, but of all the departments into which science has arranged the physical geography of the globe, this appears to me the most interesting, the most crowded with various and

attractive features, and the most certainly destined eventually to contain the most enlightened and powerful empire of the world.

At present it is no more known or comprehended, *as it is*, by the American people than was America itself to the poet Homer, and is to them as much a myth as the continent of Atalanta. Nevertheless, it is of such great area as to contain within itself three rivers which rank with the Ganges and Danube in size, and five great ranges of primary mountains. This will be seen exactly defined upon the hydrographic map of 1845, as the immense longitudinal region encased within the Cordilleras and extending from Tehuantepec to the Northern Sea. It would exhaust a large volume to recite in detail the interesting features of this region, all worthy to be known.

The PLATEAU OF THE TABLE LANDS is a succession of *intramontane* basins, seven in number, and ranging successively from south to north. The solid mass of the Andes debouches out of the Isthmus of Tehuantepec, and forks immediately into the two Cordilleras. Advancing along the Western Cordillera into the state of Jalisco, a mountain chain issues from its inner flank, and, traversing the Table Lands, plunges into the Sierra Madre, in the state of San Luis Potosi. This cuts off to the south the "*Basin of the City of Mexico*," which is the *first*, the smallest, and the most southern of the mountain basins.

Further north, a second mountain chain crosses from Durango to Coahuila, and cuts off the "*Basin of the Bolson di Mapimi*." This is the *second* mountain basin. The Cordilleras, which flank these two and fence them from the seas, have so great an altitude that the ocean vapors never surmount their crests, nor do any clouds pass outward over them. These basins, therefore, have no outward drainage, nor any rivers running to the sea. Stagnant lakes alternately receive the drainage from their surrounding mountains, and yield it to them again by evaporation. This last chain is known as the "Mountain of the Rio Florida;" the former as the "Mountain of Queretaro."

Pursuing still the Western Cordillera through the state of Sinaloa, a third mountain chain, dividing off, traverses the Table Lands due north, and plunges into the Sierra Madre, between the Parc of San Luis and the Middle Parc. This is an immense and remarkable mountain, is 1300 miles in length, and divides the waters of the Del Norte and Colorado. *It is the famous Sierra Mimbres.*

The area thus cut off between it and the mountain of the Rio Florida is drained by the rivers Del Norte, Pecos, and Conchos, which, uniting at the western base of the Sierra Madre, perforate it by a *cañon*, and, escaping into the external maritime region, form the Rio Grande of Texas.

This is the only water-course which perforates the Sierra Madre between Cape Horn and the Arctic Sea. It is here that a profound and distressing error pervades all the existing charts and delineations of our continental geography. These, omitting the great Sierra Madre for 600 or 700 miles of its length, and assigning its name to the Sierra Mimbres, locate the Rio del Norte and its vast basin with the system of Atlantic rivers. Yet the Sierra Mimbres abounds in pedrigals of lava, craters, and volcanic phenomena, and the geological altitude, configuration, and a thousand palpable characteristic features of the basin of the Del Norte, locate them upon the Plateau of the Table Lands. This blunder of transposition is more foolish than to construct a map of Europe and forget the Alps, or to draw for the people a pine-tree growing erect in the middle of the ocean, whilst dolphins graze upon a mountain slope! The vast basin of the Del Norte is then the *third* in order of the mountain basins of the Plateau.

The Western Cordillera continues to traverse Sonora, and, passing round the Gulf of California, reappears in sight of the ocean in the State of California. Opposite San Bernardo another mountain chain branches from its eastern flank, traverses the Table Lands by a northern course, dividing the waters of the Colorado and Great Salt Lake, and plunges into the Sierra Madre between the sources of Green River and Snake River. This is the *fourth* great mountain chain of the Table Lands, is 1000 miles in length, and is the SIERRA WASATCH.

Between it and the Sierra Mimbres is included the immense MOUNTAIN BASIN OF THE COLORADO, which is the *fourth* subdivision of the area of the Table Lands. This basin has an immense area, great altitude, an infinite perplexity of mountains, and is redundant in striking and wonderful novelties. The Rio Verde, Rio Grande of the West, and Rio San Juan, collect its upper waters, and, uniting against the inner flank of the Cordillera of the Snowy Andes, gorge it diagonally through and through, and escape into the Gulf of California. This sublime gorge is 557 miles in length, and is known as the "*Cañon of the Colorado.*" It is throughout a narrow mountain chasm, traversing, without interruption, the very bowels of the Andes, having perpendicular mural sides, often many thousand feet in altitude.

Other important affluents of the Colorado (the Mohabe, the Little Colorado, and the Gila) force their way into it by an infinite labyrinth of gorges, similarly scooped through the bowels of the mountain mass. These two remarkable basins, then,—the Del Norte and Colorado,—lie against the Sierra Mimbres, as a backbone. The waters of the first gorge the Eastern Cordillera to the Gulf of Mexico; those of the second, the

Western Cordillera to the Gulf of California; but no gorge unites them through the Sierra Mimbres, which is unperforated.

These basins are both longitudinal in shape and position; they overlap one another, and thereby multiply the number and complexity of mountain barriers. Among the physical phenomena of the globe, this "*Cañon of the Colorado*" is an isolated fact, unique and sublime in interest.

These two basins are, *par excellence*, the metalliferous department of the world, and are *infused* throughout with *mountains* of the precious stones, and precious and base metals—of lava, obsidian, and marble—of salt, coal, and with rivers of thermal and medicinal waters.

Let me hasten to other subdivisions of equal interest. Near the forty-second degree of latitude, the Western Cordillera throws off the *fifth* mountain chain of the Table Lands. This has a serpentine course, mainly east and west, is 1200 miles long, and forms the division between the *basin of the Salt Lake* and the *basin of the Columbia*. It joins with the Sierra Wasatch, and immediately at the point of junction, plunges with it into the Eastern Cordillera.

This great basin, containing in one of its depressions the Salt Lake, is the counterpart, on our continent, of the Caspian of Asia. It is, like the first and second basins, encased all around with an unperforated mountain wall, and neither sends nor receives water from any sea.

Nearly opposite to Puget's Sound, a *sixth* chain of mountains, breaking off from the eastern flank of the Western Cordillera, traverses the Table Lands by a due northern course, and sinks into the Eastern Cordillera, closely enveloping the sources of the Columbia River. This is called the OKENNAGAN MOUNTAINS, and divides the waters of the Columbia from those of Frazer's River.

The BASIN OF THE COLUMBIA is the *sixth* in order of the basins of the Table Lands. It is the most admirable of them all. A splendid circular configuration and two primary rivers. Its size, position, and configuration, relatively to the Mississippi Valley and the Pacific Ocean, make it the *élite* of them all. It extends all across the Table Lands from rim to rim, as do both its great rivers—the Snake River and the Columbia—which, uniting, gorge the Western Cordillera at the Cascades, penetrating through them to the Pacific in 46° 19′. They run from east to west, and connect exactly by convenient and single passes across the Eastern Cordillera, with the great rivers flowing down to the Atlantic. It partakes of all the cardinal characteristics of the other basins, having, in addition, mighty forests, navigation, a larger share of arable qualities, and a superior economy in its topographical surface and position.

Such are the six primary basins and mountain chains which checker

and arrange themselves into the GRAND PLATEAU OF THE TABLE LANDS, as I have seen them and become familiar with them. There is a *seventh*, the basin of Frazer's River, with which I am acquainted only from the reports of others who have reconnoitered it. It has the same general features, though smaller, longitudinal in direction, and narrow.

We may now, then, return to the third elementary division of the mountain formation of North America, namely: THE PLATEAU OF THE TABLE LANDS. We may understand its variety and vastness, yet handle it as a unit. The lowest sedimentary points, where the waters accumulate into the lakes of Mexico, Mapimi, Gusman, and Salt Lake, have an average altitude of 6000 feet above the seas. *The whole Plateau has then the elevation of a primary mountain.* It is everywhere fertile, being pastoral for the most part, but arable where irrigation is adopted.

Every geological formation exists on a Titanic scale: volcanoes, columnar basalt, and pedrigals of crystallized lava; porphyritic granite and sandstone, and secondary basins of the sulphate and carbonate of lime. It is universally a rainless region, and nowhere is arable agriculture possible without artificial irrigation. Pastoral culture is the prominent feature, wherein it rivals the Great Plains. The air is tonic and exhilarating—the atmosphere resplendent with perpetual sunshine by day and with stars by night. The climate is intensely dry, and the temperature variant and delicious.

Habitations are not essential in this salubrious and vernal clime; the aborigines dispense with them. During six years that I have passed upon the Plateau, I have rarely slept within a house or beneath any canopy but the sky, infinitely spangled with stars. Upon this Plateau has existed, within our memory, the populous and civilized empire of the Aztecs, and in South America that of the Incas. Timber grows upon the rivers and upon the irrigated mountain flanks. To arrange the arable lands for irrigation is not more costly than our system of fencing, which it supersedes. No portion of the globe can maintain so dense a population.

But the *fourth* subdivision of the "Mountain Formation of North America" is the SNOWY CORDILLERA OF THE ANDES. Everybody is familiar, from childhood, with the South American ANDES. This of ours is the same, unchanged in any characteristic, except an increased and superior grandeur. Let us restore to it its ancient and illustrious *name!* Let us inquire how it has come temporarily to be lost.

The ANDES traverse the American continent, in one unbroken and uniform mass, from Cape Horn to Behring's Strait. Towards the ocean, to whose indented shore they are parallel, and from which they are everywhere visible, they present a precipitous front and immense altitude; they

everywhere surmount the line of perpetual snow. Upon this front, which receives the perpetual winds from the ocean and is bathed with its vapors, snows and forests accumulate as upon the Alps. But on their summit of perpetual congelation, these vapors, condensed to ice, are as solid, as perpetual, as the granite rocks. No vapors pass over to the *inner* region, which is naked of snow, timber, or irrigation. Hence has come this distinctive Spanish sobriquet of this sublime sea-wall—Cordillera *Nevada* de los Andes (the *snowy* chain of the Andes)—to define it specifically from the naked masses within! Thus, since this ancient and familiar ANDES has come to be domesticated in our republican empire, within the States of California and Oregon, has it been thoughtlessly plundered of its name, defined only by an expletive, *snowy*, and incontinently ignored of its supreme, coronated rank in the mountain system of the world.

If, then, you require from me a description of this *fourth* subdivision of our mountain formation, I bid you to peruse again the fascinating pages of PRESCOTT and his predecessors; the romantic historians of CORTEZ, ALVARADO, and PIZARRO; and, above all, the oracular inspiration with which the illustrious HUMBOLDT has analyzed the geographical wonders of this Cordillera of the Snowy Andes, and tinted them with divine eloquence!

Finally, I am bewildered how to speak of the *fifth* subdivision, which is the PACIFIC MARITIME FRONT. This brings us out to meet the ocean, to blend together the varieties of sea and land, and where, among the assembled climates and countries of the globe, Cornucopia permanently dwells with her ever-redundant and overflowing horn of ripening beauty and plenty.

This Pacific Maritime Front is the counterpart of that outside of the Alleghany and upon the Atlantic. It is the tide-water region. The Atlantic Front has an area of 271,000 square miles, this of 420,000; it is not much broader from the mountains to the sea, but has a greater longitude. In every detail of climate, vegetation, soil, and physical formation, there is between these two seaboards the completest contrast.

On the Pacific are blended, beneath the eye, and swept in at one sight, the sublime, castellated masses of the Andes—their bases are set in the emerald verdure of the plain, rising gently above the sea-level—their middle flanks are clothed with the arborescent grandeur of pine and cedar forests. Naked above, and towering into the upper air, their columnar form of structure resembles an edifice designed to enclose the whole globe itself; but from this foundation, and rearing their snow-covered crests another mile into the firmament, shoot up volcanic peaks at intervals of one hundred miles, encasing the throats of the inner world of fire, and

coronicated in perpetual snow, beneath coronets of volcanic smoke and flames.

The sublimest of the oceans; majestic rivers more worthy to be deified than the Ganges or Egyptian Nile; the grandest and most elevated of earth's mountains; superlative forest evergreen; an emerald verdure and exuberant fertility; a mellow and delicious atmosphere, imbued with purple tints reflected from the ocean and the mountains; a soft vernal temperature the year round. Whatsoever can be combined of massive and rugged mountains, picturesque landscape, and a verdant face to nature shining under the richest sunlight: a climate soft and serene; whatsoever of all these, blended and enjoyed in combination, will accomplish to give grace, elevation, and refinement to the social world, are here united to woo and develop the genius of our country and our people.

In all these natural favors our *western* seaboard front is supremely more gifted than the classic shores of the Mediterranean and the Asian Seas, for fifty centuries the favorite theme of history, poetry, and song. The embellishments which old society and the accumulating contributions of a hundred successive generations add to nature, are not yet there; *but these will come*, and to us who fan the career of our great country whilst we live, the future, which posterity will possess and enjoy, is full of the radiance of true glory.

Such is a homespun and laconic detail of a few essential facts necessary to comprehend the "*Mountain Formation of North America*," and to know where and what it is. The subject is above the reach of imagination or ornament, and of a higher level. Intelligent research and candid judgment must supply the rest and fill up the portrait.

CHAPTER II.

THE CORDILLERA OF THE SIERRA MADRE—THE EASTERN CORDILLERA.

THIS is an immense department of our country, of primary significance and interest. Vaguely denominated the "Stony or Rocky Mountains," occupying an inhospitable waste beyond the energies of social adventure, mankind has heretofore heard the name with indifference, and all minute details with dogmatic aversion. To establish its title to esteem in the popular opinion of the world, the complete reverse of this, is my object.

Prominent in the "Mountain System of the Globe" is an immense girdle of mountains, granitic in formation, crested with snow, having volcanoes on its flanks, and *auriferous* throughout. This commences at Cape Horn, traverses the whole length of America to Behring's Strait, traverses Asia and Europe to the Pillars of Hercules, traverses Africa and appears in the islands of Madagascar, Australasia, and New Zealand. If the single strait of Hercules were closed, and Suez opened, this continuous mountain crest would exactly contain all the salt and fresh waters of the *Basin* of the Pacific Ocean in a closed circle, and divide them from those of the *Basin* of the Atlantic.

This continuous girdle becomes, in some localities, very much condensed in breadth and altitude, as at the Isthmus of Central America, and in France. Elsewhere it assumes immense expansion in area and altitude, spreading out and elevating itself into the continental plateau, which occupies the whole of Central Asia, and the still grander "Plateau of the Table Lands" of our North America.

The "*Mountain Formation of North America*" is, then, an important section of this immense girdle, which bisects all the continents.

It has an area, a massiveness and altitude, a position and climate, a fertility, a variety which blends all the peculiarities of all other sections: a simplicity of configuration, and a sublimity of profile which transcends all the rest.

Thus, in the "*Cordillera Nevada de los Andes*" is found the full equivalent of the South American mountains, volcanoes, active and extinct, crowned with glaciers and of immense altitude, battlements of columnar basalt, pedrigals of lava, subterranean and thermal streams. The plateau

and its primary chains outrival in area and interest those of South America and Asia combined.

Finally, the stern and stupendous masses of the Himalaya find themselves surpassed by the primeval bulk, the prodigious length and breadth the immense mesas, the romantic parcs, the far protruding llanos, and the cloud-compelling icy peaks of the Cordillera of the Sierra Madre.

"The Chain of the Mother Mountain" is the generic name which piety awards to this continuous crest, down whose flanks descend all the feeders of the oceans. Let me name them: the Athabasca, the Saskatchewan, the supreme Missouri and Mississippi, the St. Lawrence, the Texan rivers, the Rio Grande del Norte, the Frazer, the Columbia, and the Colorado, in the Northern continent. In the Southern, the Magdalena, the Orinoco, the Amazon, the La Plata, the Patagonia rivers, and those of the Pacific slope. Is not this Cordillera then rightly called the Mother of Rivers?

The fresh waters of the earth come from the clouds; the clouds come by evaporation from the expanses of the oceans. We shall know that the *Sierra Madre* divides and rules the meteoric powers and aerial fluids of the atmosphere, equally as the waters which we see descending down the flanks.

But let me at present restrict myself to the *Cordillera* as it runs athwart our own country, and define its varied features as they display themselves to my eye, looking out as I now am from the area of the Great Plains westward to the Pacific.

It is where the mountain mass debouches north from the Isthmus of Tehuantepec, that it bifurcates into the two primary Cordilleras, which continue to expand from one another. The Mother Mountain, on the east, gives its form to the Gulf of Mexico, whose shore it pursues nearly to the Pass of Monterey and Saltillo. Hence to the Arctic Sea the crest preserves a very regular line to the north-northwest.

At the point of entrance into our present territory, it is gorged by the cañon of the Rio Grande del Norte. This cañon is a gorge cut obliquely through and through the bowels of the Cordillera, where the river, burrowing a chasm 125 miles in length, accomplishes at once its exit into the maritime region and its descent from the "*Plateau of the Table Lands.*" This gorge, impracticable for common uses, is the only water current by which the Sierra Madre is perforated anywhere between the extremities of the continent. I have elsewhere spoken of this cañon, together with that of the Colorado and that of the Columbia, as the three remarkable and only water-gaps whereby the plateau discharges its surplus waters to the seas.

The Cordillera of the Sierra Madre enters our territory in latitude 29°,

longitude 103°, and passes beyond the 49th degree, in longitude 114°. Its length, then, within these limits, exceeds 1600 miles. It maintains an average distance from the Mississippi River exceeding 1000 miles, and has the same distance from the beach of the Pacific Ocean; it forms, therefore, a continuous summit crest parallel to and midway between them.

All the varieties of formation which distinguish the mountain chains of the continents here follow one another, or are blended in groups, and exist on a Titanic scale of magnitude.

Mesas exist, being mountains of immense base and perpendicular walls, whose summits have the level surface and smoothness of a table: *Buttes*, which are conical peaks wrought into perfect symmetry of contour by the corroding power of the atmosphere: *Llanos*, being mesas of inferior elevation prolonged outward as promontories protruding from the mountain flanks, and separating from one another the descending rivers: *Cañons*, chasms walled in on either side with mural precipices of mountain altitude; *Bayous*, or *parcs*, valleys scooped out of the main dorsal mass of the *Cordillera*, within which they are encased, each as an amphitheatre.

This mountain crest, exhibiting all these varieties of profile, has, when seen against the horizon, the resemblance of a saw or cock's-comb, whence the sobriquet *Sierra;* the continuous mass on which they rest resembles a chain of links or cord with knots, whence the name *Cordillera*. Thus is seen the expressive definition wherein the first Europeans, the Spaniards, our predecessors, have compressed this supreme mountain feature of our continent, *Cordillera de la Sierra Madre!*

To bring the mind to an easy and familiar understanding of this subject, embracing so many details, it is necessary to ascend to the summit crest at the forty-ninth degree, from hence to follow its sinuous edge to the south, to skim from point to point of the serrated profile, and, from this elevation, to extend the vision outward on either flank to where it subsides into the general foundation of the continent.

From such a position the eye continually overlooks the "*Plateau of the Table Lands*" on the west, the "*Basin of the Mississippi*" on the east.

The average elevation of the crest is 12,000 feet above the sea; that of the broad pediment, from whose longitudinal axis it rises, 6000 feet; the breadth across is 300 miles; so stupendous in area, bulk, and solidity, is the mass of the Sierra Madre!

Every one has built card houses in childhood, having a second story over the centre; such a structure illustrates a cross section of the Sierra Madre in its primeval form.

This regularity of form has disappeared under the corroding influences

of the atmosphere, operating during countless ages, and the abrading powers of a thousand rivers, carrying down their attritions to the sea. What is left presents an immense labyrinth of mountain summits, undermined and channeled to a profound depth by the yawning gorges of the streams.

Advancing then along the Mother crest in the direction indicated, the whole eastern flank to the 43d° of latitude, and 109th° of longitude (*the South Pass*), is striped with the rivers which converge to form the Missouri proper and the Yellowstone. These are the Milk River, the Missouri, the Wisdom, Jefferson, Madison, and Gallatin forks, all converging into the Missouri; the Yellowstone proper, the Wind, Pokeagie, and Powder Rivers, all converging into the Yellowstone.

These rivers, each having its complement of affluents, are all of great length, and pour down an immense volume of waters. A very small proportion reaches the sea, for where they debouch from the mountains at the lowest altitude, these waters are consumed by evaporation, rising to quench the thirst of the arid atmosphere and surface of the great prairie ocean. But down the western flank, within the same limits, descend rivers of equal number and magnitude, going to traverse the elevated "*Basin of the Columbia;*" these are the Columbia proper, the Cottonais, the Flatbow, Pend-oreilles, Spokan, Salmon, and Snake Rivers.

These rivers have a more immediate descent to the sea than those upon the east; the mountain spurs between them are, therefore, more numerous, abrupt, and of greater altitude.

It is easily discernible that over this serrated crest, whence so many rivers radiate as from a single knife-edge, there are many depressions or passes, having every variety of altitude and accessibility. The gorges which lead outward from these passes, all eventually converge to the Missouri and to the Columbia.

The more southern portion of this mountain crest, where it divides the waters of the Yellowstone and Snake Rivers, and is seen from the great road of the South Pass traveled by our people, has the local name of "Wind River Mountain." The mountain crest, curving to the east, and describing a semicircle, envelops the whole basin of the Yellowstone as in a *cul-de-sac*, and, subsiding gradually in altitude, disappears upon the bank of the Missouri.

It is by this peculiar configuration that the mountain crest here practically disappears, and leaves the open depression of the *South Pass*, into which we gain access by the Sweetwater on the east, and by Snake River on the west, passing, by this means, completely around the arc described by the Wind River Mountain crest.

A similar configuration to this exists, on a small scale, in the Alps dividing France from Italy, which may be mentioned here on account of the aptness of the illustration and the familiarity with which history has for twenty centuries invested it.

It is where the Alpine crest, under the successive names of Savoy Alps, Mount Cenis, and Maritime Alps, sweeps round in a regular arc from Geneva to Genoa, and thence subsiding into the Apennines, bisects Italy lengthwise to the sea.

Within this arc is embraced the basin of the Po, called once Liguria, but now Piedmont. Around this arc marched the armies of Brennus and Hannibal; those of the Romans passing into Gaul by the plain of the Rhone; and here also still pass the armies and people of France and the modern Europeans.

Upon Snake River is developed the most northern of the parcs. As this river descends from the *Sierra Madre*, it debouches into and bisects an immense plain of the most novel and remarkable features. This is the *Lava Plain*. It is an elliptical bowl, embraced between the Salmon River and Snake River Mountains, 325 miles in length and 95 in breadth. It is a uniform pedrigal or flat surface of vitrified basalt, melted by volcanic fires, and congealed as into a lake of cast iron.

Along its longitudinal axis stand isolated peaks, known as the "Three Butes," which erect themselves to the snow line, like volcanic cones protruding above the sea. Cracks of profound depth traverse this plain, whose blasted surface is without vegetation or water. It is traversed beneath by subterranean streams, which issue from natural tunnels in the wall of Snake River, plunging into its bed by magnificent cascades.

Bald nakedness, rather than sterility, is the extreme characteristic of this wonderful plain, which has around its rim a fringe of little "oases" upon the streams bubbling from the mountain base, of exquisite fertility and of the most perfect romantic beauty.

When we call to memory the interest attracted in every age to the diminutive formations of crystalline basalt upon the north of Ireland, near the city of Mexico, and in Southern Italy, we are struck with awe at the repetition here of these same phenomena, on a scale of stupendous grandeur.

Upon the alternate flank of the *Sierra Madre*, the bowl of the Yellowstone properly classifies itself as the second in order of the parcs, having its oval form streaked longitudinally with many parallel and narrow mountain ridges gorged by parallel rivers. This parc is very fertile, of the grandest scenery, and a delightful climate.

Such is a partial sketch of the Cordillera of the Sierra Madre, from the 49th° to the 43d° of latitude. A few denominating features only are

pointed out; the serrated crests, alternately rising into peaks and mesas above the snows, and depressed by passes; the flanks gorged by descending rivers or branching out into mountain spurs between them—the parcs; the general direction is south-southeast.

I omit to speak of the regions around the higher sources of the Missouri and Columbia, and still onward to the north, not because they are less interesting and attractive, but because I have not myself seen them, and because they are of identical features, and are as yet remote from the column of progressing empire.

The *third parc* is the plain of the *South Pass*. Although adjacent to the other two, it is in perfect contrast to them in all its characteristic features. Its surface of clay has the perfect smoothness of a water plain, over which the eye ranges without interruption. Rain is rare, and the vegetation of grass and artemisia scanty and uniform.

Upon its south front rises again the Cordillera, under the local name of Table Mountain. This forms an immense arc, similar to the Wind River Mountain, but in the opposite direction, for, turning to the southwest, it subsides to the Rio Verde, which is the great Colorado. These two arcs approach one another within thirty miles, forming a double corner over the gorge through which the Sweetwater escapes. To mark the continuity of the mother crest, a gentle crown traverses the plain from one mountain corner to the other, only traceable by the perfect division which it makes between the waters of the Atlantic and Pacific Oceans.

In the Table Mountain the *Cordillera* rises again. It resumes its direction, configuration, and altitude, which it preserves with uninterrupted uniformity clear through the continent to Tehuantepec. As far as the 38th degree of latitude it sheds the waters of the great Colorado from its western flank; those of the Platte and Arkansas Rivers from its eastern flank.

I am admonished here to pause and fix attention on the number, grandeur, and variety of the physical elements combined around this culminating point of the mountains and the rivers of our continent.

Nature here, more perfectly than at any other point upon the globe, unites into one grand *coup-d'œil* all her grandest features, which, harmoniously grouped, present to the mind a combination of superlative sublimity.

These contrasted parcs, so different, yet so close together! the intense massiveness of the *Cordillera!* the number and proximity of great rivers! the brilliancy and serenity of the atmosphere in which they shine! the awful storms which at long intervals brew among and shatter the iced mountain tops! the graphic conviction ever present to the mind of the immediate presence and presiding omnipotence of the Creator!

The impression left with me, and made by the peculiar grit and appearance of the soil which overlays the plain of the South Pass, is of a "placer of kaoline," resembling the biscuit from which porcelain is burned. This is disintegrated, and washed down from the bald mountain flanks of porphyritic granite. Whether there may be also here concealed immense placers of gold and precious stones, coming from the same source, is not yet tested; but such ought to be the fact, from the pure auriferous material of the mountains.

To resume again the pursuit of the mountain crest. This continues to recover its altitude. Soon upon the eastern flank the Northern Parc, or Bull-pen, reveals itself; along whose centre meanders the great Platte River, here running to the north in a direction contrary to the mountain crest. This is the *fourth* in number of the parcs, but has been the first and best known in popular reputation.

Being very large, very central, and easily accessible to us going out from the lower Missouri, it became the first favorite winter home of the early trappers and explorers. It is an amphitheatre of large area, whose mountain walls, covered with soil, vegetation, and scattered forests of evergreens, slope gradually up on every side. Its level plain is laced with streams and checkered with meadows, sparkling with flowers and romantic groves, in perfectly graceful alternations; its atmosphere is genial and exhilarating, and the temperature mild throughout the year.

Immediately beyond the highest extremity of the *fourth*, but upon the west or alternate flank of the mountain crest, the eye drops into the bowl of the *fifth or Middle Parc*, expanding to contain the confluent streams which form the grand river of the Colorado.

This parc is larger in area than the *fourth*, but is vexed with far-protruding mountain spurs, narrow streams rattling over rocky beds, and a cloudy atmosphere, made fitful by the altitude and close proximity of snow-clad mountain backs. This parc has its mouth towards the Pacific. Towering up from the mountain crest, where it divides these two parcs, rises the snowy head of Long's Peak, whose eastern front beetles over the Great Plains, from which it is seen for fifty leagues by those who travel up the Basin of the Kansas.

Still immediately follows on the eastern flanks the *Bayou Salado*, or *Southern Parc*, which is the *sixth*. This is the mountain's bowl, scooped out for itself by the Southern Platte, as it descends from the snowy cap of Lincoln's Peak. This parc has the same general characteristics as the *fourth*, but is greatly inferior to it in size, fertility, and climate, being closely hedged in by great mountains, from whose snows descend incessant storms, and a febrile dampness infesting the atmosphere. From the same

glacier which surmounts Lincoln's Peak descends the Arkansas River upon the reverse slope. The river has no parc; it defiles into the plains through a cañon.

Here is discernible in the mountain crest the same curvilinear sweep as in the Wind River mass. Here occurs a similar concentric knot of mountain crests, rivers, and parcs. But here the mountain crest, having curved outward to accomplish the separation of the Platte and Arkansas, condenses into the snowy promontory of Pike's Peak, and terminates in an abrupt precipice to the Great Plains.

At both of these remarkable focal points, nature seems to have instituted a primeval conflict between the abrading power of the rivers and the stubborn resistance of the porphyritic durability of the mountain barrier. At the northern focus, the triumph of the rivers presents a complete harmony of the passes, which enter at all points upon the plain of the South Pass, and connect across it. At the southern focus, the unscathed impenetrability of the mountain porphyry presents on every front its mural precipice of undiminished altitude; here, then, the austere rigidity of the mountain mass triumphs and admits no transit direct through.

To complete the perfect counterpart resemblance between these foci, opens from the western flank of the mother crest, the Bayou San Luis, which is the *seventh* parc.

This is, in physical formation and in every detail, the exact twin counterpart of the parc of the "*Plain of the South Pass.*" The Sierra Mimbres bounds its western edge, along whose base flows the Rio Bravo del Norte.

Elliptical in shape, level as the sea, equal to the *third* parc in area, encompassed by the sublimest scenery, abundantly irrigated by streams, 6500 feet in altitude, it has an alluvial soil of luxuriant fertility, and seasons eminently propitious to agriculture. It is in this delicious "*Bay of the Sierras*" that the current flow of time will find renewed, identified, and developed, all the charms with which Oriental narrative and song have invested the lovely Valley of Kashmere!

The Spanish Peaks outflank the mountain crest under the 38th degree of latitude. From hence to the 29th degree it sheds the waters of the Rio Bravo del Norte from its western flank; from the eastern flank descend the Arkansas and the Red River, flowing to the Mississippi, and the rivers of Texas, flowing directly to the Gulf.

The whole front is masked towards the east with a screen of secondary *mesas* (tables) termed distinctively *Llanos*. These are immense triangular terraces, of half the altitude of the Sierra, resting against its flank, pro-

truding outward many hundred miles, gradually dwarfing in breadth until they terminate in an acute angle.

They have an uninterrupted level surface of calcareous soil, a scanty herbage, and rainless atmosphere, an imperceptible dip towards their terminations, where they present an abrupt wall of many thousand feet in altitude, suspended above the Great Plains.

All along these mural flanks come out innumerable streams, which go to form the Arkansas, the Red River, and all the rivers which traverse Texas. Thus is explained the confusion which perplexes the public mind, struggling to arrange the physical configuration of this immense region, as yet only partially explored.

To the Mexican people who inhabit the higher mountain region, this is known as the lower plain; by the people of the maritime region, who see from below its ragged front, it is designated as the Guadaloupe Mountains, and by other names.

But this system of llanos, seen most distinctly in Texas as the *Llano Estacado* and the *Llano of the Balsifœta*, has an extent and magnitude on a scale commensurate with all the other distinctive formations. It is the continuous screen or Piedmont which graduates the immense declination in altitude from the summit crest of the Cordillera to the smooth expanse of the Great Plains. It appears from above as a depressed mesa; from below as a series of ragged mountain chains. Geologically it is, as it were, a continental terrace or steppe, or bench of the sulphate of lime (plaster of Paris), elevated above the *Great Plains*, which are carbonate of lime; depressed below the *Cordillera*, which is porphyritic granite.

I may with propriety pause here to speak of the Basin of the Kansas, both on account of the fitness of the opportunity, and because this delicious country, surrounding the very *navel* of our continent and embracing its geographical centre, has from that fact a perpetual and paramount interest.

The Kansas River has its extreme sources beneath the roots of Pike's Peak, where they have ceased to interrupt the plains. The Platte and Arkansas envelop it, and form a line of drainage between it and the Cordillera. But in front of the Kansas Basin the screen of the Piedmont is interrupted and disappears, so that the Great Plains stretch up to the base of the naked Cordillera, which reveals at one sight the towering masses of Pike's and Long's Peaks, and the curtain of snowy mountains which connects them.

A similar *coup-d'œil* is seen, as presents itself to an Italian standing upon the Po above Milan, whose eye sweeps the Plain of Lombardy, and ascends to the snowy summits of the highest Alps, without any intervening objects to interrupt the vision. A similar resemblance to the Alpine

formation which characterizes the partially-explored masses immediately to the west, has acquired for them the local name of "Helvetian Mountains."

From these two peaks,—Long's Peak to the north, and Pike's Peak to the south,—as from twin radiating points, the Piedmont expands from the eastern flank of the Cordillera, like a half-open fan. Towards the north are the Medicine-Bow Mountain and the Laramie Plain; towards the south, the Ratone Mountain, the Llano Balsifœta, and the Llano Estacado.

Such is an effort to delineate and classify the prominent physical features of the *Mother Cordillera* of our country; the serrated axis which forms its core; the system of parcs; the system of rivers and mountain spurs; the peaks and mesas; the system of llanos. Its material mass is primeval granite. Volcanoes, active or extinct, craters and their igneous discharges, are not found. (These exist upon the *Plateau* and in the *Andes* beyond.)

This *Cordillera* is auriferous throughout. It contains all forms of minerals, metals, stones, salts, and earths; in short, every useful shape in which matter is elsewhere found to arrange itself, and in all the geological gradations.

The prominent agricultural feature of the Cordillera is fertility—pastoral fertility. Stupendous peaks and battlements exist, extreme in bald and sterile nakedness; plains there are blasted with perpetual aridity and congealed by perpetual frosts.

The space thus occupied is small; indigenous grasses, fruits, and vegetables abound; it swarms with animal life and aboriginal cattle; food of grazing and carnivorous animals, fowls and fish, is everywhere found; the forests and flora are superlative; the immense dimensions of nature render accessibility universal. An atmosphere of intense brilliancy and tonic tone overflows and embalms all nature; health and longevity are the lot of man.

It is necessary to be condensed and brief. A million of interesting facts are left unmentioned. Then the *Cordillera of the Sierra Madre* is but a third part in area of our "*mountain formation.*" If the inquiring spirit and patriarchal fire of Jefferson and of Astor still burn in the popular heart, the continental mission of 1776 will revive and reanimate our generation. Counterfeit geography, promulgated with official dogmatism, will cease to be fashionable, or to defeat the divine instinct of the people. Patriotism, pioneered by truth and genuine science, will reveal and comprehend our *continental* geography as *it is*, huge in dimensions, sublime in order and symmetry, a unity in plan. Our political and social empire, expanded to the same dimensions, harmonized to the same checkered variety, will assume a similar order, a like symmetry, and crown hope with a similar solid and enduring perpetuity.

CHAPTER III.

THE PLATEAU OF NORTH AMERICA.

It is now twenty-seven years, nearly a full generation, since I submitted to the scrutiny of science and the public "*A Hydrographic Map of North America*," exhibiting in daguerreotype the cardinal physical architecture of our continent. Upon this is exactly defined the *Mountain Formation*, inclosing the *Plateau of the Table Lands*. This subdivision of our country, amounting to one-third of the whole area, comes now in the bounding march of empire, to have a necessary, an intense, a pre-eminent interest to our people.

Undoubtedly the scheme of Independence, inaugurated in 1776, sustained through the fortitude of the Revolution, and consummated in the Union of 1787, contemplated and commenced a Continental Republic! In the ripening of time, we are now called upon to receive into this continental Union the independent and equal States of the *Plateau*, and to construct across it a complete system of *continental railway*.

How it is that immense facts, dormant since creation, and noticed only to be unanimously rejected by human society, flash suddenly out of midnight obscurity, and by a single step plant themselves upon the very throne itself of public attention, may be thus illustrated: Columbus, intent upon discovering a direct route by sea to Oriental Asia, died without any thought of the new continent, or knowledge that he had seen it. Amerigo Vespucci, a younger navigator, identified the new continent, established its existence in the popular mind, and gave to it his own name, America.

Thus, in 1842, commenced to agitate itself throughout America, the energetic geographical movement, to reorganize the column of central progress artificially stagnated in Missouri since 1820.

Exploration, conquest, the conversion of the wilderness, have since advanced with intense celerity.

As is the case with all normal instincts: war, peace, domestic and foreign schemes of opposition, have each contributed to precipitate its advance and fire its activity.

The American people are, then, now advancing, victoriously to plant

democratic empire co-equal with the area of the continent. The grand novelty which rises in front, is the *Plateau of the Table Lands.* This Plateau, inclosed within the Cordilleras of the Mountain Formation, possesses characteristics new to mankind, and about to arrest the attention and sway the mental energies of America.

In the first place, it is necessary, by reference and comparison, to identify this *Plateau;* to discover what and where it is; and thence to go on and demonstrate its area, its climate, its capacity, and its geographical power in the world.

Asia contains two plateaux; South America, one; North America, one. Europe and Africa have great mountain chains, but no plateau.

The immense *Plateau of Asia* occupies the central region of that continent, extending east and west from the Pontic Sea to Middle China. It is inclosed between the Himalaya Mountains and those of Siberia, embracing the upper and lower plains of Thibet and the great lakes, the Caspian Sea, the Sea of Aral, and the Balkash Sea, with the rivers that flow into them.

This great space is fenced imperviously from the oceans by a circuit of primeval mountains: it extends east and west 4800 miles, between the latitudes 35° and 50°. Its average breadth, north and south, is 1200 miles.

Such is the immense continental plateau of Asia, of which our knowledge is imperfect, as to its population and the grade of civilization they fill. We know that from primeval time, periodical swarms of conquering barbarians have descended down its flanks and deluged all the continents to the seas, convulsing empires and displacing all organized societies. These convulsions have extended to the extremities of China, of India, of Europe, and into Africa.

Such is a short and significant memorandum of this plateau, remarkable for the high antiquity, the numbers, and the uniform barbarism of its populations. It is entirely north of the isothermal temperate zone.

The *Plateau of Syria* occupies the space between the Persian and Red Seas: the Dead Sea is within it and the peninsula of Arabia: it has no large rivers, but is flanked by the Euphrates, the Nile, and the Mediterranean. It lies across the Isothermal temperate zone from edge to edge.

Here is the original birthplace and cradle of human history and inspired civilization. Down its flanks have descended all the ethereal systems of the world, which enter the heart of men and inspire true religion, true knowledge, political liberty, and which erect, enlarge, and perpetuate civilized society. Hence have gone forth to the extremities of the earth and to the human race throughout all time, the genuine oracles

of God revealing religion and liberty, to achieve the conquest of idolatry and barbarism, and displace them from the human heart.

Beneath the equator, upon the summit of the Peruvian mountains, is the *Plateau of the Andes*. Here was the delicate empire and system of the Incas, which withered before Pizarro and the Spaniards as a vine before the tropical siroc. It contains the Lake of Titicaca, and is without large rivers. Of excessive elevation and aridity, small in area, arduous of access, and approachable only through torrid heats which surround its base and flanks, this Plateau is entirely *without* the belt of the isothermal temperate zone.

Such are the three other Plateaux. We now approach the fourth—our own—the *Plateau of North America*.

I have heretofore written of this Plateau: "I speak with great diffidence; but of all the departments into which science has arranged the physical geography of the globe, this appears to me the most interesting, the most crowded with various and attractive features, and the most certainly destined eventually to contain the most powerful and enlightened empire of the world.

"At present it is no more known or comprehended, *as it is*, by the American people, than was America itself by the poet Homer. It is to them as much a myth as was then the continent of Atalanta. Nevertheless, it is of such great area as to contain within itself three great rivers which rank with the Nile, the Ganges, and the Danube in length, and five great ranges of primary mountains."

The Andes, where it issues from the Isthmus of Tehuantepec, divides into the two Cordilleras of the north. The one pursues the shores of the Mexican Gulf; the other, the shores of the Pacific Ocean. The Cordilleras, continuing to open from one another, run, with great uniformity of bulk and altitude, through to the Polar Sea. At the 43d degree of latitude they are 1400 miles asunder, which is here the breadth of the Plateau.

The *eastern Cordillera* is the Sierra Madre (the Mother Mountain); the *western Cordillera* is the Sierra Nevada de los Andes (the Snowy Andes).

This, then, the whole immense area encased within the Cordilleras from Tehuantepec to the Polar Sea, is the Plateau of North America! The Cordilleras have a general altitude of 12,000 feet; the Plateau, of 6000. The Plateau is 4000 miles in length, having its direction from southeast to northwest; its superficial area is 2,000,000 square miles. The portion within our territories is one-third of the whole country.

Such, then, are the geographical position, the area, and the altitude of the *Plateau*. Its *longitudinal* position is remarkable, having its extremi-

ties within the equatorial and the polar zones; but its greatest breadth and area is across the Isothermal temperate zone. Its whole western front is closely flanked by the Pacific Ocean; its eastern front by the Gulf of Mexico and the Calcareous Plain. It erects itself continuously along between these, and either connects them together or separates them asunder.

The *Plateau* has a general configuration, simple as a unit in the physical geography of the globe; the details are infinite and complicated, all marked by a grandeur in harmony with its vastness. In the elements which attract and perpetuate the social host of civilized men, no other region can assert or hold communion with it. It denominates as a standard, which can have no equal.

It is subdivided into seven great basins, which succeed one another in order from the south towards the north. The basin of the city of Mexico is the *first* and most known. A central lake collects the waters of the basin, which has no drainage to the sea.

The *second* basin is the Bolson de Mapimi. The Laguna de Mapimi collects its waters, and is also unconnected with the sea. These basins are divided asunder by the Sierra of Queretaro, which connects the Cordilleras across.

The *third* is the basin of the Rio Bravo del Norte, which is divided from the second by the transverse mountain chain of the Rio Florida. This immense basin is drained by the rivers Del Norte, Pecos, and Conchos, which, uniting against the Sierra Madre, gorge it by a cañon and form below the Rio Grande of the Mexican Gulf.

The *fourth* is the basin of the Colorado. The great Sierra Mimbres divides these two basins asunder after the manner of a backbone, from which their waters descend down the reverse slopes. They are longitudinal, parallel, and overlap one another. Distinguished by stupendous volcanic phenomena, they pre-eminently constitute the *metalliferous region* of the world. The confluent rivers of this basin, where they unite to form the Colorado, gorge the Andes by the wonderful cañon of that name, and debouch into the California Gulf.

The *fifth* is the basin of the Salt Lake, divided from the last by the great Sierra Wasatch. Within the vast circuit of its mountain rims, are contained many stagnant lakes receiving rivers of fresh water. This basin has no outlet to the sea.

The *sixth* is the basin of the Columbia. The transverse chain of the Snake River Mountains parts these two last basins. Here is seen a most wonderful display of natural phenomena. The Snake and Columbia Rivers, coming from opposite directions and penetrating immense mountains, unite

together, gorge the Andes at the Cascades, and debouch into the North Pacific Ocean.

The *seventh* is the basin of Frazer River. The Olympian chain divides it from the Columbia. From hence the Plateau continues its direction through a region as yet but little known, and opens out upon the Polar Sea.

If a thread be drawn longitudinally through the Plateau, equidistant from the Cordilleras, it will bisect a line of sedimentary lakes resting as in the bottom of a trough. These are the Lake of Mexico, the Laguna, Gusman's Lake, the Great Salt Lake, the Pend-oreilles and Okanagan lakes. These waters have an average elevation of 6000 feet above the sea. The whole bulk of the Plateau has then the altitude of a primary mountain.

If the stupendous features of nature are allowed their solemnity of impression, and the majestic length and bulk of the Cordilleras be admitted, we may now understand what is the immense subdivision of our continent encased within them. We may receive and handle it as a unit, assign to it a name, "*The Plateau*," and identify its extent, its distinctive profile and position.

The climate of the Plateau is local and peculiar, but very uniform. The Cordilleras, by their altitude and remoteness from the sea, exclude the ocean vapors from the Plateau. A rainless atmosphere, perpetually dry, tonic, and transparent, is the normal condition throughout the year. Altitude and aridity united, temper the heat towards the equatorial zone; the same causes temper the cold towards the polar zone. The extremes of temperature for the day and for the night are great; for the seasons of the year, scarcely perceptible. In one word, the temperature is uniformly *vernal*. Thus the genial and propitious climate of the isothermal temperate zone extends up and down the summit of the Plateau, and is felt to both extremities!

The soils of the Plateau are of the highest order of fertility, alike upon the mountains, the valleys, and the mesas or extensive plains. The dry and serene atmosphere converts the grasses into hay, and, preserving them without decay, perpetuates the food of grazing animals around the year. This gives to *pastoral* agriculture an infinite capacity for production and superlative excellence. Meat food, leather, wool, fowls, fish, and dairy food are of spontaneous production.

The soils, accumulated from the attrition and decay of lava and of carboniferous and sulphurous limestones, possess an exuberant fertility. Spots of arid sands are few and insignificant; such as exist are from the auriferous granite, and contain placers of gold. These soils, then, com-

posed of the essential elements of fertility and production, and warmed by an unclouded sun, need only irrigation to ferment their activity. For this, nature has provided in the configuration of the surface and the infinite abundance of snowy mountains, of streams and of rivers descending from their glaciers or bursting from their flanks.

The descent from the longitudinal crests of the mountain ranges to the lowest levels, is everywhere by terraces or steppes arranged against the mountain mass. Across these are channeled the gorges of the descending waters, coming from the gradually melting snows above. To guide these waters out upon these terraces and distribute them over the surface, involves neither excessive labor nor intelligence. It is understood and practiced by the aboriginal people.

The laborious systems of culture to provoke germination, the uncertain yield common to our people of the maritime region of timber and uncertain seasons, are here unknown and unnecessary.

A perpetual sun and systematic irrigation (as in Egypt) dispense with laborious manual tillage; the use of the plow is not indispensable: the waters for irrigation descend from a higher level and are constant. The laborious extermination of the primeval forest; fuel and refuge from the inclement seasons of heat and cold; periodical and uncertain inflictions of drought and saturation; dependence upon an atmosphere ever changing and forever fickle and treacherous; none of these vicissitudes are seen or known upon the Plateau.

The adobe brick, of unburned clay, constructs fences and houses, inhabited more for domestic seclusion and convenience than from necessity.

Upon the high mountain flanks, within the influence of constant snow, exist abundant forests with the rank summer grasses and vegetation; the proportion of these is ample and harmoniously distributed. The Plateau presents itself, therefore, prepared and equipped by nature in all departments at every point, and throughout its whole length, for the immediate entrance and occupation of organized society, and the densest population. Of this we have an absolute illustration.

It is where, upon the terraces surrounding the Great Salt Lake, three decades of years have developed in the wilderness a powerful people, possessing in practice all the elements of mature and stable society; moreover, in the ease with which a numerous army has transported and sustained itself, without disaster or calamity, at the same remote destination.

Accessibility on to the *Plateau* is wonderfully facile and unobstructed over a tranquil ocean on the one hand, by the Great Plains on the other.

Amidst the checkered variety which distinguishes the surface of the Plateau, the most systematic order is discernible. The transverse moun-

tain chains are parallel to one another. They, as well as the great rivers, have their courses due north and south, and are longitudinal in direction.

The only exception is Snake River, and the Snake River chain of mountains. They exhibit a stupendous display of volcanic convulsions, extending over the basin of the Salt Lake. This is such as to excite the conviction that in primeval times the Blue Mountains of Oregon were unperforated, and between them and the Sierra Wasatch flowed a great river, discharging into the maritime basin of California.

If this were so, the harmonious configuration of the Plateau, from end to end, would be undeviating.

The great mountain chains, *six in number*, enumerated as the Sierra of Queretaro, of the Rio Florida, the Sierra Mimbres, the Sierra Wasatch, the Snake River Mountains, and the Olympian chain, all form continuous divides across from one Cordillera to the other. They are unperforated by any running waters, and block off the area of the Plateau into the seven isolated basins above named.

Other mountain masses, branching from these sierras, protrude far out into the basins, are capped with snow, and rival them in bulk and altitude. Such are the Sierra La Plata, the Humboldt Mountains, and the Blue Mountains of Oregon. Spurs and minor mountain chains appear everywhere.

The central regions of the basins are occupied by great plains, surrounding the sedimentary lakes, or forming the immense troughs of the rivers; the *parcs* are amphitheatres secluded within the sierras, around the sources of the great rivers. The most remarkable are the Parc of San Luis, the Middle Parc, the South Pass, and the Lava Plain of Snake River.

Elsewhere the great rivers assault the flanks of the sierras and gorge them athwart, traversing them by profound chasms, and foam for hundreds of miles between perpendicular walls of rock. Such cañons are seen upon the Rio del Norte, the Colorado, the Snake River, and the Columbia, especially where they gorge the *Cordilleras* to reach the seas.

Such is the infinite assemblage of mountains, plains, great rivers, in every variety and magnitude, that unite themselves to form the immense area of the PLATEAU OF AMERICA!

The features of its geology are equally various, vast, and wonderful; both mountains and plains promiscuously appear, of carboniferous and sulphurous limestones, lava, porphyritic granite, columnar basalt, obsidian, sandstone, accompanied by their appropriate contents of precious and base metals, precious stones, coal, marbles, earth, thermal and medicinal streams and fountains; and all of these adorned by scenery forever varying, fascinating, and sublime.

For agriculture, both pastoral and arable, no region of the world is more propitious, not even the Basin of the Mississippi, which is by its side. One remarkable characteristic pervades all the rivers: their waters are supplied (as are those of the Nile) from the high mountains whence they descend. Such rivulets as abound in maritime countries are not known, but subterranean streams burst forth and again disappear. This systematic feature at once demonstrates the porous nature of the soils and the fertilizing character of the waters.

To revert again to the characteristic climate of the Plateau. It is *continental* as contrasted with the *maritime* climates of regions open to the influences of the oceans and overflowed by their clouds and vapors.

The Plateau is secluded from the presence of these clouds and vapors by the uninterrupted envelope of the Cordilleras, surmounting the line of perpetual snow. These clouds and vapors lodge themselves upon the summits of the Cordilleras, and of such of the Sierras as have sufficient altitude. From these the rivers are fed and descend to traverse the lower altitudes, and upon their summits are observable the atmospheric changes of maritime countries.

Out upon the Plateau these changes do not reach. Here the constant alternations arising from rain-clouds are not felt. The atmosphere has a perpetual *vernal* temperature, unvarying, rainless, transparent, splendid, and serene.

It is along the axis of the isothermal temperate zone of the northern hemisphere that revealed civilization makes the circuit of the globe. Here, the continents expand; the oceans contract; this zone contains the zodiac of empires: along its axis, at distances scarcely varying from one hundred leagues, appear the great cities of the world, from Pekin, in China, to St. Louis, in America.

During antiquity this zodiac was narrow; it never expanded beyond the North African shore, nor beyond the Pontic Sea, the Danube, and the Rhine. Along this narrow belt, civilization planted its system from Oriental Asia to the western extremity of Europe, with a more or less perfect development. Modern times have recently seen it widen, to embrace, with an imperfect fire, the region of the Baltic Sea.

In America, it starts with the broad front from Cuba to Hudson's Bay. As in all previous time, it advances along a line central between these extremes, in the densest form and with the greatest celerity. Here are the chief cities of intelligence and power, and the greatest intensity of energy and of progress.

In 1820, this middle column of the centre had reached the western frontier of Missouri, and opened trails along to the Pacific Sea; the

flanks were then behind, in New York, Lower Canada, and in Georgia. In the overwhelming revulsion of all previous political precedents, which pervaded our Federal councils from 1816 to 1828, *central* progress was forcibly interdicted. Abruptly stopped by an Indian barrier and Draconic code, and forced to recoil for forty years, the flanks have come up to an even front upon the right and upon the left.

Science has recently very perfectly established, by observation, this *axis* of the isothermal temperate zone. It reveals to the world this shining fact, that along *it* civilization has traveled, as by an inevitable instinct of nature, since creation's dawn. *From* this line has radiated intelligence of mind to the north and to the south, and *towards* it all people have struggled to converge. Thus, in harmony with the supreme order of nature, is the mind of man instinctively adjusted to the revolutions of the sun and tempered by his heat.

Behold, then, in the geographical position and features of the *Plateau of America*, a crowning mercy and a miraculous light displayed by God in our front, to illuminate for us the safe line of march and the whole area of expanding empire!

The central column of progress has already ascended on to the Plateau by the entrance of the South Pass, and established itself on the fertile terraces that surround the Great Salt Lake; it is established in New Mexico, upon the Upper Del Norte; it prepares to enter by the passes of Pike's Peak and the Arkansas into the delicious parcs that surround the gold region of the San Juan; it is upon the Columbia and Frazer Rivers; it has also passed over the *Cordillera of the Andes*, and it presents itself fronting to the east and entering from California.

Such is the *Plateau of America*, transcendent in position, immense in area, superlative in climate, fertility, and variety of configuration.

Here are blended all the elements which distinguish the other plateaux of the world. Its longitudinal form; the rainless character and perennial brilliancy of atmosphere; its perpetual vernal temperature; its alternate basins, parcs, and snowy sierras; its great rivers; its indefinite and propitious capacity to produce and to sustain population; its gold, metals, and gems; finally, its dominant position, beetling over the Asiatic ocean on the one hand, over the *Calcareous Plains* on the other hand, continuously from the Polar Sea to the equatorial belt. These all arise successively and together to announce to the American people their accession to the most attractive, the most wonderful, and the most powerful department of their continent, of their country, and of the whole area of the globe.

But the Plateau has the prestige of antiquity to commend it to favor. It was here that Cortez and the conquerors found the gorgeous empire of

the Montezumas! a polished people, highly cultivated, numbering many millions, and martyrs to their heroic devotion to the arts of peace! The same marked characteristics still show themselves undiminished in the existing aboriginal people, thinly scattered to the extreme north; curious, intelligent, and credulous, heroic and timid, vibrating quickly from superstitious veneration to despair.

They invite and receive the white man as a new divinity, and then recoil, to shun him with hate implacable till death.

This is my understanding of the *Plateau of America*, condensed to a general but a compact view. At my first entrance upon it in 1843, my impressions were far otherwise. Everywhere appeared novel phenomena; nature wore an impenetrable complexity of features alternately fantastic, sublime, *bizarre*, and incomprehensible.

Time, reiterated exploration, study, and meditation, have revealed it to me as it is,—in architecture transcendent, in anatomy symmetrical and consistent in every detail. It is necessary to ponder long before we may penetrate the deep designs of Providence, or be permitted to comprehend the austere and perfect order with which nature is everywhere replete.

CHAPTER IV.

THE SIERRA SAN JUAN.

To command the gold and silver production of the world, and combine this with an intelligent policy, is to rule the world. The present ability of the American people to do this, will become manifest so soon as the geography of the North American continent shall become correctly understood by them, and its economical development made a systematic policy. A few standard facts in physical geography and geology being currently grafted in to guide the popular mind, the ease with which the people of America will rise to the pinnacle of power and empire, and the necessity incumbent upon them to do so, become both simple and luminous of comprehension.

I have in a former chapter defined to itself the "Great Plateau of the Table Lands," and enumerated the primary mountain chains, the rivers, and the elevated basins (seven in number) which checker its immense area. This whole area, together with the great flanking Cordilleras, is of the primeval, auriferous formation. Although immense sandstone and calcareous formations are frequent, and elsewhere igneous rocks have overflowed thousands of square miles, these overlay a uniform pediment of porphyritic granite, as uniformly yielding gold.

The primeval gold-bearing formation, therefore, very equally divides the area of the continent, half and half, with the calcareous formation, which latter abounds with the base metals. Thus, within the present territories of the American people, the precious stones and precious metals, platinum, gold, silver, quicksilver, exist in the as yet partially developed half, with the same abundance and universality of distribution as do the base metals, mineral fuel, and calcareous rocks, within the States.

Investigation within "*the great calcareous plain*" has so far progressed, that we trace along its diagonal axis a metalliferous band traversing continuously from the neighborhood of Mier, on the Rio Bravo del Norte, to the junction of Coppermine River with the Arctic Sea.

This band, resembling a sword-belt suspended from the shoulder and knotted upon the hip, traverses Texas in a direction north-northeast; crosses Arkansas and Southern Missouri diagonally; Northern Illinois,

Wisconsin, and Minnesota, and, brushing the extreme shores of Lake Superior and Hudson's Bay, sinks into the Arctic Sea near the Magnetic Pole.

Everywhere within this band the calcareous rocks and soils are permeated with veins and native masses of the base metals, existing in a plenitude and purity sufficient to supply the world forever. What is seen and known upon the surface, indicates a systematic order throughout in the relative positions of the different metals and their accompanying rocks and earths, as also in the localities where each exists in excess and may be said to culminate.

Thus in the State of Missouri iron appears protruding above the general level, over an immense area, attracting exclusive attention and the appellation of Iron Mountains, by reason of the immense formation of this metal, which displays itself for many hundred square miles above and below the surface, *in mass and in position.* Copper may likewise be said to culminate, where it displays itself around the extreme waters of the St. Lawrence, *in mass and in position.* Thus likewise of lead, where it appears in indefinite abundance by itself, in Wisconsin, Missouri, and Arkansas.

The existence of the base metals of native purity *in mass and in position,* on an immense scale and within the calcareous formation of the basins of the Mississippi and St. Lawrence, is now become established. The question arises, therefore, whether there exists within the primeval formation any parallel phenomenon, or any possibility of the existence, accessible to human research, of the precious stones, of gold, silver, and the kindred precious metals, *in mass and in position.*

The possibility, and, even more, the *probability* of such a development resulting from persevering exploration among the sierras of the Plateau of the Table Lands, becomes distinct as their geological configuration is revealed.

We have seen, in a former chapter, that the Cordillera of the Sierra Madre presents within our territory two remarkable focal culminations,—the one grouped around the Wind River Mountain, the other surrounding Pike's Peak. These are about four hundred miles apart; they are connected by the continuous chain of the Cordillera, as by a curtain.

Either one, contemplated by itself, fills the same significant place upon our continent, as does the Alpine group surrounded by the kingdoms of Europe, in the topography of that continent. A parallel altitude, grander bulk, larger rivers, the sublimest scenery, a rainless atmosphere, and a foundation of broader and more solid dimensions, distinguish our continent.

To all who ascend the great plains in the neighborhood of the 39th degree of latitude, the snow-crested mass of Pike's Peak, 15,000 feet in

altitude, and seen at a distance of 100 miles from its base, is a prominent object. This peak beetles over the plains, protruding out as a promontory from the Cordillera, with which it is engrafted by an elevated ridge.

From the northern flank of this ridge descend the waters of the South Platte, which, first forming the *Parc of the Bayou Salado*, flow out into the plains to the northeast; from the southern flank descends the Arkansas, which defiles by a cañon and issues forth into the plains towards the southeast. The Cordillera, from whose eastern flanks both of these rivers descend, curving towards the east, divides asunder the waters of the two great rivers, the Arkansas and the Rio Bravo del Norte. From the western bank of the Cordillera, opposite to Pike's Peak, protrudes similarly an immense mountain promontory toward the south; this is the SIERRA SAN JUAN, the local name given to the northern culmination of the Sierra Mimbres.

The Sierra Mimbres, departing from the Cordillera under the 39th degree of latitude, traverses diagonally athwart the Table Lands, having a due southern course. It joins the western Cordillera in the Mexican State of Durango, in latitude 23° 30′. Its course coincides with the 109th meridian. It is 1200 miles in length. It is a continuous mountain mass, dividing the Rio Bravo del Norte from the great Rio Colorado. The immense basins of these rivers rest against it as a backbone.

The Sierra Mimbres is a mountain chain of the first order in length, massiveness, and altitude. It is entirely within the area of the Plateau of the Table Lands. It abounds in volcanic phenomena and pedrigals of lava. Its eastern bank is scored by cañons descending to the Del Norte; its western flank, by the affluents of the Colorado. The variety and grandeur of its geological features and metalliferous qualities surpass all other mountains. It produces the precious stones.

Within the States of Chihuahua and Durango its flanks are mined for silver, and contain twenty-one known deposits of that metal, which for three centuries have supplied the silver and silver coin to the world. But the labors of the Spaniards have not penetrated beyond the Gila River. It is the portion north of this river and within our territories which is most interesting.

Throughout the whole system of the Andes, it is upon the plateaux and high mountain flanks that mining is profitably pursued. Such is the fact in Chili, Peru, Brazil, and Mexico. It is upon the *Plateau of the Table Lands* within our territories that the metallic resources chiefly abound.

The whole system, then, of primeval mountains, occupying the western half of the New World, is uniformly auriferous. It is where the mountain

summit spreads out to embrace the prodigious expanse of the three contiguous mountain basins of the Del Norte, Colorado, and Salt Lake, that the internal volcanic powers of the globe exhibit their effects upon the most stupendous scale.

From this pediment, having an altitude of 7000 feet, rise the two bisecting mountain chains of the plateau, the Sierra Mimbres and the Sierra Wasatch, by which it is subdivided into these three specified elevated basins. This immense expanse of continent, presenting a uniform mass of the elevated auriferous rocks, places the equally grand abundance of the precious metals beyond conjecture and above doubt.

But the Rio Colorado gathers into its one channel the large rivers within its basin, namely, the Rio Verde, the Rio Grande of the West, the Eagle, Dolores, and San Juan Rivers. It launches its whole force against the interior flank of the western Cordillera, perforates this Cordillera by a cañon, tunnelled diagonally for 557 miles through the very roots of the mountain mass, and reaches the ocean at the head of the Gulf of California.

It is this solitary fact in physical geography, new to human research, and of transcendent interest, that here arrests and fixes the attention of every mind. The dorsal mass of the Andes, thus perforated through from base to base, and athwart its course, by a river of the first magnitude, is formed, to its snowy summit, of the upheaved auriferous and igneous rocks!

Nowhere else throughout the globe has nature waged so stern a conflict, nor are similar phenomena elsewhere seen. Upon the other continents, great rivers are seen descending from the flanks of primeval mountains, and gorging their outflanking spurs; here only is this universal law of nature defied, and the arcana of the inner world revealed, surrounded by details of the austerest sublimity.

Such is one of the stupendous novelties of our own mountain formation, which arrests the attention and summons the enthusiasm of science and the energetic ambition of our people. Nature here abounds in a vast variety of formations, each upon the same miraculous scale, and all sublime.

Volcanoes, whose flames and eruptions appear to have ceased but yesterday; immense plains of *selenite*, fringed with fantastic mountains, called *cristones* (pendent cockscombs); *mesas*, surmounted by prairie plains of wonderful fertility; vast regions of forest upon the irrigated mountain flanks; crests of perennial snows; *parcs* of secluded and romantic beauty, having a perpetual verdure, and the temperature of perpetual spring; *cañons*, incaged by perpendicular mountain walls of roseate sandstone, wrought by corrosion into every form of sculpture; mountains permeated with broad veins of gold and silver; others having emeralds

and the ruby; quicksilver is known to gush forth and deposit its globules in the rough meadows, called "*siennekas.*"

Thermal streams of all varieties of sanatory waters burst, as subterranean rivers, from beneath the overhanging peaks and *mesas;* mountains of porphyry and of rock salt are numerous; vast mountain chains of carboniferous limestone, changing through all varieties of the richest marbles; iron is found in mountain masses; copper is scarcely less abundant.

Petrifactions, obsidian, carnelians, agates, and chalcedony pave immense regions. Fuel of coal develops itself in beds of unrivalled extent, depth, and compactness; caves sparkling with transparent frescoes of crystallized selenite.

An abundant flora of the most delicate forms, colors, and fragrance; a perennial pasturage, overrunning the mountain flanks and summits, on which millions of aboriginal cattle subsist round the year, as fish within the sea; a fat fertility in the soil, at once uniform and universal; rivers, streams, and fountains, absolutely infinite in number and of miraculous convenience and distribution.

Over all this nether world, so checkered with a gorgeous variety of forms and productions, both upon the surface and beneath, floats the aerial atmosphere, shining with a perpetual splendor unknown in regions of less altitude and less remoteness from the sea. Dry, tonic, and exhilarating to the taste, infused with the direct solar warmth, filtered through the ether that surmounts the atmospheric vapors, the embalming atmosphere tints all nature with a silvery splendor, constantly shining, and constantly serene.

The nights have an opposite, penetrating coolness when the solar rays are withdrawn and his direct beams are quenched; the canopy of resplendent stars has a parallel sublimity with the day; the transparency of the atmosphere and its serenity are the same.

Electric storms, short in duration and at long intervals, periodically renew the irrigating snows upon the mountains, refresh the air, temper its dryness, and restore the rivers.

Why these *basins* and *sierras* of the Plateau should be especially metalliferous, becomes evident by reference to a few radical principles of geological research. If quicksilver, water, oil, and alcohol be poured into a hollow pillar of glass, these liquids will subside, according to their specific gravities, into layers in the above order. If gold, iron, wood, and feathers be thrown in, they will similarly sink, the gold to the bottom, the iron to the quicksilver, the wood to the water, the feathers to the oil.

If this column becomes solid by congelation, the same arrangement will remain, the gold being sedimentary to all, the iron beneath the stratum

of frozen water, the wood beneath the oil. Everybody is familiar with the manufacture of shot; each globule of liquid lead precipitated through the air is formed, by gravity, into a sphere.

The globe of the earth, 8000 miles in diameter, is similarly formed, the congealing substances arranging themselves, as the shells of an onion, from the centre outward, according to their several specific gravities.

I have often boiled rice in an open camp-kettle, when traversing the mountains and my daily march was done; the rice finally subsides in mass to the bottom, but the water remains of a milky whiteness. This whiteness is caused by minute, buoyant particles of rice, of altered specific gravity, suspended throughout the water; congelation into ice fixes in solid form both the mass beneath and the suspended particles.

This homespun illustration makes clear the cause of the diffusion of grain-gold throughout the auriferous rocks. To be found in *mass and in position*, it must be sought sedimentary, beneath these rocks. All that we have as yet found is granular, in scales or minute lumps, set free from the upper rocks by disintegration or corrosion, and descending the mountain flanks with the sands abraded by the torrents.

But we have seen that the Cordilleras and the Sierras of the Plateau are formed of the auriferous rocks broken from their horizontal beds and the edges vertically upheaved some two or three miles in altitude; moreover, the Cordillera of the Andes is gorged athwart its roots by the cañon of the Rio Colorado. Is it not, then, possible—even probable—that sufficient exploration may here reveal to the miner the precious metals *in mass and in position?*

The scientific writers of our country adhere with unanimity to the dogmatic location somewhere of "*a great North American desert.*" Travellers, under their promptings, especially search for it. It has been located *seriatim* in advance of the settlements, in Kentucky, in the Northwest, in Missouri, upon the Plains, in California. No explorer or witness who has failed to find a desert is allowed credence or fame.

Yet there is none, either in North or South America; nor is the existence of one possible. On the contrary, the least fertile portion of our continent is the *silicious* maritime slope of the Atlantic States, whose climate is also the most inhospitable. Yet here is no desert, and none anywhere else exists. This dogmatic *mirage* has lately receded from the basin of the Salt Lake; it is about to be expelled from its last resting-place, the basin of the Colorado.

The anatomy of a dwarf or an infant is identical with the anatomy of a giant. The details and relative proportions are the same. Habituated to a common medium standard, it is the size which is marvellous to us.

Our senses are bewildered by the novelty; our judgments wander—but the object seen is a reality.

To antiquity—even to the modern day of COLUMBUS—the Atlantic Ocean was a mysterious abyss, an impenetrable Tartarus. By degrees the field of the eye expands, the mind dilates, fact by fact is surmounted, as an acclivity is made easy by a stairway. The *mirage* is dissolved, the higher standard is reached, grows familiar, is approved, and is firmly embraced.

It is to European minds that we owe the as yet elementary sciences of physical geography and geology. The founders of these sciences have reared them by hiving the slowly-developed details of nature, collected by exhausting patience within the small basins surrounding the cities of their residences.

Thus, within the small basins of the Thames, the Seine, the Arno; upon the flanks of the Alps, the Apennines; in Calabria, and around Fingal's Cave, have heretofore been found the most popular illustrations to nurse the infancy of these sciences.

More than sixty years of intense meditation has inspired the cosmopolitan genius of HUMBOLDT to scan the terrestrial globe with an expanded vision. He only has spoken worthily of America to her own people. In him we recognize the intrepid pioneer who invites us to understand the gigantic proportions of our own great country, its order, its symmetry, and its grand simplicity of configuration.

As Columbus led forth navigation and commerce, from its lengthened tutelage in the Mediterranean Sea, to expand itself over all the oceans and to every continental and every island shore; so now, this venerable pioneer of physical science and the arts, marshals us on to penetrate the *arcana* of the land, to fit society to the broad foundation of the continents, and rear a comity of civilization coequal with the globe.

It is in Europe that COLUMBUS and HUMBOLDT have had their nativity and their residence. It is for America that they have lived; to us they belong; apostolic citizens of our destiny!

The area of the department of the *Plateau of the Table Land*, embracing the three elevated basins of the Salt Lake, the Colorado, and the Rio Bravo del Norte, is equivalent to France, Austria, Switzerland, and Cisalpine Italy combined; its rivers are equal to the Danube, Rhine, Rhone, and Po; its metalliferous mountains are pre-eminent in bulk, number, and grandeur.

In readiness to receive and ability to sustain in perpetuity a dense population, it is more favored than Europe. Fertility of soil of the highest order is the dominant and uniform characteristic of this immense

region. The mountains are rarely abrupt or rugged. They are surmounted by *mesas*, descending by gigantic terraces called *mesillas*. The densely crystalline primeval rocks yield but slightly to atmospheric corrosion in the regularity of a continental climate and seclusion from the sea. It is the decay of lava, selenite, and carboniferous limestone that forms the soil.

The pastoral fertility is developed by nature, which sustains its aboriginal herds as fish in the rivers and in the sea. The arable fertility needs the care of man, and awaits the economical development of artificial irrigation. For the reception of this system, the whole structure and contour of the surface is fitted, and the natural waters abundant.

Reflection will recall to memory the magnificent empires of people, possessing a highly-advanced, but imperfectly-organized, civilization, found established along the summit of this Plateau, conquered by CORTEZ, ALVARADO, and PIZARRO. On the summit of the Southern Andes, in Chili, Peru, and around Quito, on the Northern Andes, in Central America, and Mexico, dwelt twenty millions of population in the aggregate.

Three centuries of subjugation have dwarfed this aboriginal people to one-half of their original numbers, and radically altered their religion, their language, and traditional manners. They have touched the lowest point of decadence, from which they will again slowly ascend.

This people had no fixed science in physics, religion, or politics, to prop and protect their system from the shocks of time; no navigation, no principle of perpetuity. These have now come to them with the European column, bringing with it the ark of regeneration. The peculiar agricultural and social system of the Mexicans under the Montezumas, extended up the basin of the Rio Bravo del Norte to the base of the Sierra San Juan. Our people are marching to the same point from an opposite direction, bringing with them the social habits of the isothermal zone and a maritime climate.

I have spoken of this remarkable focal culmination of the Eastern Cordillera, from which two snowy promontories protrude, back to back; Pike's Peak to the northeast beetles over and subsides into the Plains; the Sierra San Juan, to the south, beetles over the Plateau, and subsides into the Sierra Mimbres.

Radiant mountains and streams diverge from this point in every direction, and form abundant passes, direct and practicable, to and fro, between the basin of the Mississippi and the Plateau. The three remarkable *parcs* —the Middle Parc, the Bayou Salado, and the Bayou San Luis—all approach close together the dividing crest of the Eastern Cordillera, over whose summit they immediately communicate.

I know not how adequately to delineate this knotted group of all the colossal elements of nature. To submit the unembellished facts is all that is necessary, were this possible, where the elements in compact contiguity are so many, so varied, and each of such colossal grandeur. To exaggerate is far from my intention; to enumerate the details of nature, as I have seen them, with austere simplicity, is my aim.

Behold, then, to the right, the Mississippi Basin; to the left, the Plateau of the Table Lands; beneath, the family of Parcs; around, the radiating backs of the primeval mountains; the primary rivers, starting to the seas; a uniform elevation of 8000 feet; a translucent atmosphere, a thousand miles removed from the ocean and its influences; a checkered landscape, in which no element of sublimity is left out; fertility and food upon the surface; metals beneath; uninterrupted facility of transit!

Behold the sublime panorama which crowns the middle region of our Union, fans the fire of patriotism, and beckons on the energetic host of our people. The American people number fifty millions in strength. Two millions change annually their place of residence. The oracular instinct of conquest burns in every heart; this is the continental mission of '76, proclaimed from the traditions of Jamestown and of Plymouth Rock, and thence bequeathed to posterity!

The column of pioneers (engaged during several years in planting the State of the Kansas basin) has passed over the rim of the Calcareous Plain, and debouched upon the base of the primeval mountains. Gold has been found at the first trial and upon the threshold at Cherry Creek, upon the eastern flank of Pike's Peak, and elsewhere. A few seasons have sufficed for them to ascend, by the Arkansas and the *Bayou Salado*, to the mother crest of the Cordillera, whence the basins and sierras of the *Plateau* expand beyond:

> "The clouds above us to the white Alps tend,
> And we must pierce them, and survey whate'er
> May be permitted: as our steps we bend
> To that most great and growing region, where
> The earth to her embrace compels the powers of air."

Let us here pause to reflect whether the traditional history of our race does not, on its very front, illustrate what prominence awaits this *longitudinal Plateau* of our continent, descending thus by terraces into the Mississippi Basin on the east, to the Pacific Ocean on the west!

The existence of the empires of Montezuma and the Incas exhibits upon these Table Lands the only examples where our aboriginal people rose above an absolute barbarism elsewhere, upon the lowlands, as universal and as level as the waters of the sea.

All around the head of the Mediterranean Sea, where it penetrates the Asiatic continent, its basin is encircled by a plateau, or amphitheatre of elevated plains extending round from Suez, continuously through Syria, Asia Minor, and into Greece. This descends by terraces to the sea-shore. Upon this Plateau have been, among others, the cities of Babylon, Palmyra, and Damascus; upon the slopes to the sea, Alexandria, Tyre, Jerusalem, Tarsus, Byzantium, and Athens!

What cardinal element have we, in the immense mental system of our civilization, which has not come to us and with us from thence? Hence (from this Plateau of Syria) have resounded through all time and into every heart, the direct oral teachings of Jehovah and of Jesus: hence have issued forth the miraculous alphabet and the numerals: hence have come the cereals and animals of our agriculture, wine, and fruits: hence our religion, law, social manners, history, music, poetry, and arts: from hence, as from the cradle of nativity, have issued forth for our inheritance, to abide with us forever, "the unconquerable mind and freedom's holy flame!"

Everybody is acquainted with the Gulf Stream of the Atlantic Ocean. This colossal stream, recoiling round the circular sea of the tropics, and receiving the oozy sediment of the Amazon, the Orinoco, the Magdalena, and the Mississippi, launches out into the middle ocean. Its silent current rolls the tepid waters and sandy *débris* of two continents a thousand leagues along the bottom of the ocean: it banks them up upon the margin of the Northern Sea, to form the submerged continent of Newfoundland, and the *telegraphic plateau*.

Similarly has flowed, for fifty centuries, along the *isothermal* axis, the human current, which bears with it the immortal fire of civilization revealed to man. This central current has reached the Plateau of America, up which it will ascend to plant the sacred fires over its expanse and shine upon the world with renewed effulgence. Such is the resplendent era and the gorgeous promise unveiled to humanity. The arrival of this is *now* announced by the indefinite gold production and pastoral power of the interior, domestic region of our continent and country.

CHAPTER V.

THE SOUTH PASS OF AMERICA.

FROM the previous chapters, it will be perceived that one who travels from Paris to Pekin, by the direct route of New York, Kansas City, and San Francisco, traverses these physical divisions: 1st. The Atlantic Ocean. 2d. The Atlantic Maritime Slope. 3d. The Alleghany Mountains. 4th. The Basin of the Mississippi. 5th. The Cordillera of the Sierra Madre. 6th. The Plateau of the Table Lands. 7th. The Cordillera of the Snowy Andes. 8th. The Pacific Maritime Slope. 9th. The Pacific Ocean.

This route brings into immediate juxtaposition, *along the isothermal axis*, the great permanent reservoirs of human population and activity—*Western* Europe, America, and *Oriental* Asia.

If it be practicable to accommodate all the international transportation of the *three* continents by this route, a prodigious condensation of economy in the interchanges of the products and people of the world will be accomplished at a blow.

The distance of transit will be reduced from the circumference of the globe to the length of its diameter—*the time to one-tenth.* Steam by sea and land will form an uninterrupted trip by two ocean ferries, connected by a *transit* railway. Thus will be solved the geographical problem which has agitated the world before and since COLUMBUS.

Practical experiment has long since exhausted all discussion as to the passage of the two oceans by steamers, and of the American continent by railway, so far as the Atlantic Maritime Slope, the Alleghany, the Basin of the Mississippi, up to the wall of the Cordillera of the Sierra Madre, and the Pacific Maritime Slope, are concerned. Serious arguments of any difficulties within these divisions of the whole distance have been long settled and have ceased.

All that remained enigmatical to the public mind, and unresolved, when these notes were first penned, was the interval occupied by the Cordillera of the Sierra Madre, the Plateau of the Table Lands, and the Cordillera of the Sierra Nevada, which conjointly form the "*mountain formation of North America*," extending continuously from Tehuantepec to the Arctic Sea.

How this complicated barrier of immense mountains, 1000 miles in breadth, is to be surmounted, has obtained its illustration by the establishment of the Mormons in Utah, and the military expedition sent against them. It is by the *South Pass*, which is the gateway of the American people and their commerce to Asia, as has been the Strait of Gibraltar that of exit out into the Atlantic, to the nations of the Mediterranean, now and in all ages past.

There exists between the Basins of the *Mediterranean* and of the *Mississippi*, a perfect identity in position, physical characteristics, historical prestige, and social concord. A comparison of the one with the other will furnish a luminous illustration, to explain the present generation of the American people to itself, and to guide all future generations.

The area in square miles of these two basins is the same. Four-fifths of the surface of the *former* is occupied by the salt-water expanse of the Pontic, Propontic, Adriatic, and Mediterranean Seas, into which flow the Danube, the Nile, the Po, and the Rhone, rivers having narrow valleys and imperfect navigation. Protruding out between these seas are the peninsulas of Asia Minor, Greece, Italy, Spain, and the African coast, all filled full with mountain vertebræ, rugged and poorly adapted to agriculture.

The sea surface is stormy and dangerous to navigation: the rivers are short and deficient in channel: the shores are impracticable to land except where harbors are constructed; and the inhabitable lands arranged in rugged and isolated masses.

Yet, from the first pioneer voyage of Hercules down the Mediterranean, to the Pillars which still immortalize his energies, to the present age, there has existed a certain imperfect compact in the political, social, religious, and commercial relations of the people of the Mediterranean.

The vestal fire of civilization has never been entirely quenched. It has spread out to illuminate the whole area, both under the political system of the Roman Empire and the religious system of the Roman Church. It has overrun the brim, and is inherited by the modern European nations who are the dispersed progeny of Rome.

The "*Basin of the Mississippi*" fills more perfectly the *temperate* zone. The counterpart of the salt-water surface is a delicious, undulating plane, everywhere channelled by rivers navigable to their very sources: navigation is everywhere as safe and constant as upon a canal; the line of accessible shore is in length absolutely infinite; the soil is uniformly calcareous, arable, of inexhaustible fertility, and sufficiently irrigated from the clouds; no mountain, no sheet of water, no swamp is anywhere found to break the uniform productiveness of this immense expanse; no rapids to interrupt the universal navigation of the rivers.

Europe is bisected by a broad mountain chain traversing it continuously, *east and west*, from Gibraltar to Siberia, under the names of the Pyrenees, Alps, Carpathians, and called by the Romans "*divortia aquarum*" (the divide of waters). What, therefore, is outside of the Basin of the Mediterranean is, for the most part, in the inhospitable "Basin of the Baltic," its climate and general features not unlike Labrador.

All along the *northern front* of the "Mississippi Basin," expand beyond an imperceptible barrier, the "Basins of the St. Lawrence and Saskatchewan," similarly calcareous, similarly abounding in navigation, and only moderately inferior to it in fertility, in geniality of climate, and in area.

The surface, then, of the *European* Basin is salt-water and mountains. That of the *American* Basin a plain of calcareous, arable soil. The former has a *maritime* climate, the latter a *continental* climate, superior in dryness and salubrity. The former has a restricted and dangerous, the latter an abundant and safe, navigation. In land-transportation the contrast is still more strikingly diverse and favorable to the *American Basin*.

The Basin of the Mediterranean, under the rule of the Roman Emperor TRAJAN, attained a population of *one hundred and thirty-one millions*. This was then chiefly congregated in the eastern half; it is now in the western half, in which direction the *pressure* always preponderates.

At present the Basin of the Mississippi contains *eighteen* millions of inhabitants. It will conveniently sustain *eighteen hundred* millions. *This is now an immense empire.* Comparisons drawn from history or existing empires, are very feeble illustrations of what is to grow up on this already radicated foundation.

All the features of nature, all the principles of progress, social and political, are here *original*. This undulating plain, uniformly and universally calcareous; this circular configuration, running flush out to the repelling lines of the *Arctic* and *Torrid* Zones; this miraculously-balanced variety of temperature, climate, prairie, forest, land, rivers, rain, and sunshine, minerals and contiguous expanses—*now arable and now pastoral*—all these constitute an original order of physical facts, simple and symmetrical, but sublime.

The rising of consecutive States out of the wilderness, erected by spontaneous industry; the unabating deluge of men daily pouring forth and daily pushed onward by the hand of God; the rushing march of empire; the profound internal order and systematic economy which pervades and guides this mass, more numerous than many armies; the instinct of discipline and self-government everywhere felt and always obeyed; no central military or religious power anywhere seen—all these array themselves

to announce the presence of principles and power intensely *original* and intensely potential in social and political influences.

Memory will suggest how slow and narrow, until quite modern times, has been the column of organized civilization on the old continent. The whole African coast of the Mediterranean is socially semi-barbarous, and has been so uniformly since the deluge. Upon and beyond the Danube its permanence is quite recent and its light still crepuscular.

Contrast the elements of society and their history, filling the face of Europe from Gibraltar to Norway, with that of America from Cuba to Hudson's Bay, both fronting to the west! In the former appear distracting nationalities, domestic force and fraud, no systematic union, no moral harmony, no uniformity of races, no intelligent concord in religions. In the latter is a compact front, where all these elements *reversed* are blended in civic concord, fired by a common hope, inspired by one destiny, and having one God, one heart, one aim, and one supreme ambition.

Such are the characteristics of the two basins, contrasted the one with the other. They both slope to the Atlantic Ocean, and are face to face. In the mythological history of Hercules we read the first intelligent record of that struggle for dominance over the Mediterranean, and a *system* holding its elements in harmony, which has been ever since a drama of uninterrupted acts.

In this drama appear the tragic sieges of Troy, Tyre, Athens, Carthage, Alexandria, Byzantium, Rome, Rhodes, Gibraltar, Malta, and Sebastopol; among a thousand combats by sea and land the naval victories of Salamis, Actium, Lepanto, Aboukir, and Trafalgar.

From history, which is the narrative of this struggle of four thousand years, is apparent the perpetual incubation of military brute force always in the majority; civic virtue and municipal independence as uniformly in the minority, checkered by heroic resistance and perpetually-recurring martyrdom.

It has been the design of the American *continental* republic, from its first colonial origin, to reverse this doom; to elevate civic concord to the administration of political power; to sustain it there; to dispense with the whole scheme of military despotism without respect to its antiquity, its arrogance, or the heretofore universal success of its subtle union of hypocrisy and force; to inaugurate for mankind a code of political practice, which shall bring the science of government into accord with the divine code of morals and religion, cradled 1873 years ago in the manger of the stable of Bethlehem!

This mission of *civic* empire has for its oracular principle the physical characteristics and configuration of our continent, wherein the *Basin of*

the Mississippi predominates as supremely as the sun among the planets.*

The Basin of the Mediterranean is, then, a surface of *barren sea*, with mountain masses, imperfectly fitted for population, protruding above it; that of the Mississippi is a calcareous plain of land, everywhere interlaced and ramified with navigable arteries. Both are traversed centrally by the *zodiac* of empires within which the current of civilization has flowed in all ages *from east to west.*

This current, descending the Mediterranean, and drawn in by the converging continents of Europe and Africa, pours forth its whole concentrated volume through the supreme pass known now and in all ages as the "*Pillars of Hercules.*"

What is accomplished by this convergence of the continents of the Old World, in reducing all the outlets of navigation, and consequently of all commerce, to the single Pass of Hercules, is accomplished for our continent by the "Mountain Formation." This is the South Pass of North America, the exact equivalent *single* pass, in our continent of *land*-basins, to the *water*-pass of Gibraltar among the water-basins of the Eastern hemisphere. The latitude is 42° 24′, the longitude 109° 26′. This is the same latitude as Boston, Bayonne, and Marseilles, in France, and of Trieste and Constantinople.

To delineate the features of the *South Pass*, so that the topography of the plain, the prodigious sierras which surround it, the rivers radiating out of it, and the gorges by which they commence their gentle declinations to the seas, may all be grouped in one *glance*, as a portrait in daguerreotype, is not easy to be done.

The plain is elevated 7500 feet above the sea; it is beyond or *west* of the Cordillera; its surface of clay is so absolutely smooth as to admit of uninterrupted vision, as over water; it is in shape a triangle, having very acute angles at the northern and southern points, and one very obtuse at the source of Sweetwater, which is the eastern point.

The western side, 200 miles in length, corresponds with the bed of the Rio Verde (Green River), running directly from north to south, to which the whole plain slants. Immediately along its western bank rises the *Sierra Wasatch*, forming a continuous mountain barrier towards the west; opposite the centre of this hypothenuse is the gorge of Sweetwater, enveloping the eastern point of the triangle; the remaining sides extend hence, the one to the northwest, the other to the southwest.

* The North American Continent is in form a sublime amphitheatre, being *concave* in configuration. All the other continents are *convex*.

Along the former, in length 109 miles, rises the stupendous mass of the Cordillera, known here *locally* as the "Wind River Mountain." Along the latter a similar mass of the Cordillera, but of inferior altitude, known *locally* as the "Table Mountain."

The area of the Plain of the South Pass is about equivalent to that of New Jersey. Its surface is of clay, resembling kaoline, of which porcelain is made, and has the absolute smoothness of that material filtered through water and compacted by pressure.

From the three angles of its rim issue the Sweetwater, flowing *east* into the Platte and to the Atlantic; the Snake River, flowing *northwest* to Walla-Walla, and thence with the Columbia to the North Pacific; and the Rio Verde, *south* into the Bay of California; by whose western affluent also, Black Fork, exists the easiest egress into the Basin of the Great Salt Lake.

Most probably no spot on the globe has grouped into one view so much of intense grandeur in the variety and number of its physical wonders. From a single ice-crowned summit of the *Wind River* Mountain are seen the gorges of the Missouri, Yellowstone, Platte, Colorado, and Snake Rivers, all radiating from its base, and each the equal of the Danube in length and the volume of its waters.

Five primary chains of snowy mountains here culminate together to this central apex, from which they radiate out between the rivers; the dorsal mass of the Cordillera reaching towards the north to the Arctic Sea, and towards the south to the Antarctic; the Sierra Wasatch, the Snake River chain, the Salmon River Mountains, all crested with snow, and each having an unbroken length of 1000 miles.

The South Pass is 1400 miles from Astoria. It is the same distance from St. Louis. It is, then, in the middle region of the continent. It is the *only single pass* through the "Mountain Formation" from hence as far as the Isthmus of Tehuantepec. From this comes the name *South Pass*, as being the most *southern pass* to which you may ascend by an affluent of the Atlantic, and step immediately on to a stream descending uninterruptedly out to the Pacific.

This name is as ancient as the Pass itself. Into it concentrate the great trails of the buffalo—geographers and road-makers before the coming of man. The Indian, the Mexican, and the American, successors to one another, have not deflected from the instincts of the buffalo, nor will they, whilst the primeval mountains last in their present unshattered bulk.

This is the continental highway of the people, through which millions have already poured to and fro with their children, their free principles, their cattle—assembled in caravans, on foot, and mounted—with wagons,

hand-carts, knapsacks, and bringing with them their household gods, and the tabernacle of civil and religious liberty.

The South Pass is *par excellence* the *continental pass*. The outlet at the eastern angle is known as the gorge of the Sweetwater River, which descends to the Platte; that at the northern angle as the gorge of Grosventre River, which descends to the Snake River. These are both short and slender mountain streams, accomplishing their descent in beds of the extremest sinuosity, but without abrupt waterfalls. They both flow from chasms in the flanks of the immense mass of the Wind River Mountain, which here forms an arc fronting to the west, and issue out upon the plain.

But the plain is traversed by a gentle *divide*, parallel with the mountain base, and no more distinguishable than the bevel given by engineers to any ordinary street. Against this these two streams are deflected into opposite courses, the former to burrow its way around the arc of the mountain to the *southeast*, the other towards the *northwest*.

To one who observes this from the plain, there is presented a similar miraculous configuration of the land, such as displays itself to one who, navigating the Propontic Sea, beholds the Dardanelles upon his right hand and the Bosphorus on his left. Moreover, the sky is without clouds and *rainless*, the atmosphere intensely brilliant, temperate, and serene, encompassed round by scenery of the austerest sublimity.

But we have seen that the elevation of the South Pass is 7500 feet, and that Snake River runs *continuously* out of it by the most direct and favorable course, of 1400 miles, to the Pacific Sea, tunnelling consecutively the Blue or Salmon River range of mountains, the western Cordillera, and all other transverse ranges and obstructions.

Here is, then, an uninterrupted water declination through and across the whole "*mountain formation*," descending by a plane dipping *five feet* to the mile!

From the adjacent eastern rim of the *Plain of the South Pass* runs out Sweetwater into the Platte, which, tunnelling consecutively all the outlying ranges of the eastern Cordillera, forms a similar uninterrupted water declination, in a very straight line of 1400 miles to St. Louis, descending by the same average dip of *five feet* per mile.

Everybody is familiar with the existing railways, which, radiating from St. Louis and pursuing continuously the plains of the Ohio and St. Lawrence, outflank the Alleghanies between Syracuse and Rome, and descend by the Hudson River to New York.

The sciences which delineate and explain to the human understanding the details of matter, as it fits itself in myriads of millions of variegated

forms to fill out the supreme order of the universe, develop nothing so interesting to the heart of civilized man as this single sublime fact of physical geography in the supreme engineering of the Creator.

This line of gently-undulating river-grades girdles the middle zone of our Union from sea to sea, in one smooth, continuous and unbroken cord, 3600 miles in length. It fits *the isothermal axis* of the temperate climates, crossing one river only at St. Louis, and outflanking all the mountains. It presents to us the counterpart of that water-line of the Old World, commencing at the extremity of the Euxine, passing down the Mediterranean, and debouching out into the ocean.

From the South Pass to Mexico the primary mountain chains spread out. They, together with the great rivers which divide them, are longitudinal, parallel, and unperforated. The rivers grow deeper as they approach the sea, increasing the altitude and abruptness of the mountain flanks, which overlap one another, and increase and complicate the mural barriers.

Nowhere, within this interval, are the mountains reduced to a single dividing barrier, nor are there presented anywhere the essentials of a single pass. Nowhere is to be found a sufficient depression in the mountain crest, and a continuous gradation from the summit-crest, prolonged to the east and to the west, down both declinations to the seas.

The South Pass is elevated 7500 feet above the seas, from which it is some 1500 miles remote. It has, then, a *continental climate*, whose atmosphere is tempered by the altitude and by the absence of moisture. Hence an *intense serenity* is the prominent feature, perpetual sunshine, a tonic and salubrious air, a vernal temperature.

Along the *continental line* the changes from the continental to the maritime climate, and *vice versâ*, graduate themselves with the same delicate scale as the surface slopes. *Uniformity of climate*, from sea to sea, is then so nearly approached, that it actually exists all along this line in absolute plenitude.

Human society, in the current course of ages, vibrates to and fro through periods of barbarism. God and Nature endure constantly eternal and perfect. Manners, religions, policies, change and become barbarous or the opposite, as they harmonize with God and Nature. Science develops how this harmony may be known and practised. As we recede from it, turbulent force dominates, numbers are dwarfed, civilization withers, liberty is lost; as we approach it, civilization expands, charity smiles, order and empire rise.

Nature here for us, *upon our Continent*, amidst a stupendous vastness of configuration, preserves an austere simplicity, which guides the instinct-

ive *glance* of empire with unerring certainty. Here is that continental line, the discovery of which mankind has awaited with the keenest curiosity.

In the ripeness of time the hope of humanity is realized; it is by this that our people are about to construct the *Continental Railway*. Like the refulgent girdle with which antiquity bound, in one chorus, the sisterhood of the Graces, we will behold united, by one zone, the three sister Continents, Europe, America, and Asia.

Here, through the heart of our territory, our population, our States, our cities, our farms and habitations, will traverse the broad current of commerce, where passengers and cargoes may at any time or place embark upon or leave the vehicles of transportation.

Down with the parricidal treason which will banish it from the *land*, from among the *people*, to force it into the *barren ocean*, outside of society, through foreign nations, into the torrid heats, along solitary circuitous routes, imprisoned for months in great ships!

This *Continental Railway* is an essential domestic institution, more powerful and more permanent than law, or popular consent, or political constitutions, to thoroughly complete the great system of fluvial arteries which fraternize us into one people; to bind the *two sea-boards* to this one continental Union, like ears to the human head; to radicate the foundations of the Union so broad and deep, and establish its structure so solid, that no possible force or stratagem can shake its permanence; to secure such scope and space to progress, that equality and prosperity shall never be impaired or chafe for want of room.

The pious veneration spontaneously awarded by the human heart to men, whose lives exhibit exalted devotion and exalted success, inspiring and perpetuating in society the "*principle of virtue always in exercise*," has placed Hercules, the pioneer of the system of the Mediterranean, in the number of the immortal gods of antiquity: a constellation in the ethereal canopy diurnally renews his memory, his name, and his actions.

Modern times, accepting the tradition, behold it stamped upon the coin of Spain and the Indies, to obtain a circulation as universal and familiar as the human race.

The American people pursue the planting of empire, advancing with intense celerity; moving to the front according to a system understood and self-disciplined; marching with the cadence of an army of innumerable legions; uniting in one homogeneous order, with the same energies, a single aim, and rushing to consummate a common destiny. Shining in the front of this marching host, the pioneer and exemplar, "*first in war, first in peace, and first in the hearts of his countrymen*," appears the form

of WASHINGTON, whose oracular wisdom and intrepid constancy inspired the normal councils where its mould was cast, its strategy fixed, and its unalterable mission first inaugurated. Let this name, then, find a monument around whose base the condensed column of progress shall file to and fro during all future ages!

Where the summit-crest of our continent is found; the focal source of its rivers and its sierras; where the cloud-compelling Cordillera culminates over the "Gateway of empires;" let these commemorate this *name* immortally, while the grass shall grow and the waters run, as firm and enduring as the loftiest mountain. Let the children of the world be taught to say: Behold the Pass and the Pillars of WASHINGTON!

The history of the human race arranges and gauges itself by generations. *Thirty-three* years are estimated to be the period of control exercised by each generation over the long life of a nation. As each succeeds its predecessor, the work of progress is reinvigorated, and fresh power and new conquests accumulate. The present is the *eighty-sixth* year of the Federal Constitution, and inaugurates the *third* generation of our united people.

The *first* gave to us this sacred Union, and founded our continental Republic. The *second* has filled up the Atlantic half of the continent with States, secured the maritime connections with that ocean and with Europe, and has blazed for us the way across the continent to the Pacific and to Asia. We, the *third* generation, receive from them the pious task to plant States onward to that ocean; to complete the zodiac of fraternal nations round the globe, and to set deep and firm to their outward dimensions the foundations they have laid.

As we assume our task, illuminated by the example of their wisdom, energy, and glory, intent to equal them in the first and surpass them in the rest, may we not repeat this invocation to the luminary of the universe, as he departs to usher in another day:—

> "The weary sun hath made a golden set,
> And, by the bright track of his fiery car,
> Gives token of a goodly day to-morrow!"

CHAPTER VI.

THE GREAT BASIN OF THE MISSISSIPPI.

THE most obviously remarkable physical feature of America and of the inhabited globe, is the *Basin of the Mississippi*. As yet the popular mind does not clearly comprehend its dimensions, and the understanding of its physical characteristics is indistinct and vague. It is bisected through its centre by a supreme artery, which above St. Louis has received the name of the *Missouri*, and below, the *Mississippi* River.

This is 5000 miles in length, and its surface is a continuous inclined plane, descending seven inches in the mile. Into this central artery, as into a common *trough*, descend innumerable rivers coming from the great mountain chains of the continent.

All of the immense area thus drained, forms a single *basin*, of which the circumferent mountains form the rim. It may also be called an *amphitheatre*, embracing 1,123,100 square miles of surface. This has been, during the antediluvian ages, the bed of a great ocean, such as is now the Gulf of Mexico or the Mediterranean, above the surface of which the mountains protruded themselves as islands.

Gradually filled up by the filtration of the waters during countless ages, it has reached its present altitude above the other basins, over which the oceans now still roll, and into which the waters have retired.

The "*Basin of the Mississippi*" is, then, a pavement of calcareous rock many thousand feet in depth, formed by the sediment of the superincumbent water, deposited stratum upon stratum, compressed by its weight and crystallized into rock by its chemical fermentation and pressure. It is in exact imitation of this sublime process of the natural world, that every housewife compresses the milk of her dairy into solid cheese and butter.

It is, therefore, a homogeneous, undulating plain of the *secondary* or sedimentary formation, surmounted by a covering of soil from which springs the vegetation, as hair from the external skin of an animal. Through this coating of soil, and into the soft surface strata of rock, the descending fresh waters burrow their channels, converging everywhere from the circumferent rim to the lowest level and pass out to the sea.

In this system, which is the same as the circulation of the blood in

animal life, the *Missouri* River and the minutest rill that flows from a garden fountain, has each its specific and conspicuous place. Hence the corresponding order in the undulations, the variety, and the complexity of contour in the surface and in its vegetation.

Such is this vast Basin, whose transverse diameter is 2500 miles, and so simple, homogeneous, and clear is the system of its geology and its waters. The vegetation and climate have a like consistent order of arrangement, and are more varied. These vary with the latitude, the distance from the oceans, and with the altitude.

The insular site of New York City is upon the bank of the sea, is *sixty* feet elevated above the sea, and is constantly irrigated by the evaporation coming from the sea; it is in latitude 41° 30′ north.

The plain of the South Pass is 2000 miles from the sea; is elevated 7500 feet above the sea; has no vapor from the sea; but an atmosphere rainless and without dew; it is in latitude 42° 30′ north.

Such are the contrasts in the elements affecting climate and vegetation.

Through the interval between these two extremes Nature changes, from one to the other, by a graduation so delicate and uniform as to be scarcely sensible to a traveller who goes *less* than the whole distance. Yet, to one who does so, these changes are as palpable upon the face of Nature, as are the diurnal alternations of light and darkness. The timber, the flora, and the grasses indicate the presence and absence of atmospheric irrigation, as palpably as the sun indicates the day, and the stars the night.

All that portion of the Mississippi Basin lying between the Mississippi River and the Atlantic, is densely timbered, excepting only a portion of Indiana, Illinois, and Wisconsin; so also are the States of Louisiana, Arkansas, and South Missouri.

An irregular line from the head of Lake Erie, running towards the south and west into Texas, defines the cessation of the timber. Between this line and the sea exists a continuous forest region, perpetually moistened by showers from the ocean.

Beyond this line, and deeper into the continent, the upland ceases to nourish timber, which is replaced by luxuriant annual grasses, though narrow lines of forest continue upon the saturated bottoms of the rivers and in the islands. This is the Prairie region of luxuriant annual grasses, and soft, arable soil, over which the fires annually sweep after the decay of vegetation.

The termination of this belt is marked by an irregular line parallel to the first, where the rains cease, and the timber entirely disappears. It is about 450 miles in width, and within it artificial irrigation is not practised, nor necessary, it being everywhere soft, arable, and fertile.

To this succeeds the immense *rainless* region onward to the mountains, exclusively pastoral, of a compact soil, coated with the dwarf buffalo grass, without trees, and the abode of the aboriginal cattle. That no desert does or can exist within this Basin, is manifest from the abundance and magnitude of the rivers; the uniform calcareous formation; the absence of a tropical sun; its longitudinal position across the temperate zone; and the greatness and altitude of the mountains on its western rim.

The river system of the *Mississippi Basin* resembles a fan of palm-leaf. The stem in the State of Louisiana rests in the Gulf; above, the affluent rivers converge to it from all parts of the compass. From the *east* come in the Homochitto, the Yazoo, the Ohio, the Illinois, and the Upper Mississippi. From the *west*, the Red River, the Washita, the Arkansas, the White, St. Francis, and Osage Rivers, the Kansas, the Triple Platte, the L'Eau qui Cours, and the Yellowstone, all navigable rivers of great length and importance.

These rivers present a continuous navigable channel of 22,500 miles, having 45,000 miles of shore, an amount of navigation and coast equal to the Atlantic Ocean.

The area of the Mississippi Basin classifies itself into one-and-a-half-fifths of compactly-growing forest, the same of prairie, and two-fifths of great plains. Through all of these the river system is ramified as minutely complex as are the veins and arteries of the human system.

The population is at present 18,000,000. The capacity for population is indefinite. Comparison will illustrate this interesting fact.

Society erects itself into *empires* in order to arrive at strength, civilization, and permanence. The most perfect example is the empire of the *Romans*, whose history we familiarly possess complete, of its rise, culmination, and slow decline. This empire occupied and fused into one political and social system the *Basin of the Mediterranean*, whose area is 1,160,000 square miles.

From out of this they never passed, except into the corner of Gaul and Britain, but restricted themselves to the Mediterranean and Pontic Seas, to the Nile, to the Danube, and to the Rhone. This empire, embracing the above area, contained under Trajan and the Antonines 131,000,000 of population, and Rome itself, in the geographical centre, had a diameter of 50 miles and 10,000,000 of inhabitants!

But the area of this Basin is, for the most part, a salt-water waste, into which protrude the peninsulas of Asia Minor, Greece, Italy, and Spain, themselves filled with mountain vertebræ, and also a few islands. Space for habitations and the production of food is, therefore, scarce.

The equivalent, with us, of this salt surface and rugged mountains, is,

everywhere, an undulating, *calcareous* plain, uniformly inhabitable and productive. The rivers surpass the sea for the freightage of commerce, and the front of land upon them exceeds the coasts of the oceans in amount and accessibility. The *Basin of the Mississippi* will then more easily contain and feed ten times the population, or 1,310,000,000 of inhabitants!

If the calcareous plain extending to the Arctic Sea, the two maritime fronts, and the mountain formation, be added, and the whole compared to Europe and Asia, 2,000,000,000 will easily find room—a population double the existing human race!

This Basin is all within the *Temperate Zone;* but upon the shores of the Gulf, at the level of the sea, tropical fruits, flowers, and vegetation are produced. On the high mountain slopes grows the vegetation of the Arctic Zone. Between these are found every kind of agricultural production, as we descend from the extremes to the central medium.

In position it is exactly *central* to the continent. Not far remote from the west bank of the Missouri River, in the bosom of romantic scenery and fertile prairie, is a spot where the Smokyhill and Republican Rivers, by their confluence, form the Kansas. This is the geographical centre at once of the North American continent, and of the Basin of the Mississippi.

The circle described from this centre with a radius to San Francisco will pass through *Vancouver* on the Columbia, the port of *Severn* River on Hudson's Bay, through *Quebec*, through *Boston*, through *Havana*, *Vera Cruz*, and the city of *Mexico*. With a radius to the 40th degree, a circle will pass through *Mobile*, *New Orleans*, and *Matagorda*. This spot is, therefore, the *geographical centre* of the North American Continent and of the Basin of the Mississippi, both at once.

It is also equally the centre of the American Union, as it is now blocked out into existing States and into prospective States, to occupy sites in the now-existing Territories! Moreover, it is equidistant from, and exactly in the middle between, the two halves of the human family, distinctly concentrated; the one half Christians, occupying Western Europe, to the number of 259,000,000 of population; the other half Pagans, occupying *Oriental Asia and Polynesia*, to the number of 650,000,000!

Europe has all the outlets of its inland seas and rivers towards the *west*, debouching on to our Atlantic front, towards which its whole surface slopes. Asia similarly presents to our Pacific front *an Oriental slope*, containing her great rivers, the densest masses of her population, and detached islands of great area, dense population, and infinite production.

The distance from the European to the Asian shores (from Paris to Pekin), travelling straight by the continuous river line of the Potomac,

Ohio, Missouri, Platte, and Snake Rivers, and across the two oceans, is only 10,000 geographic miles.

This straight line is the *axis* of that temperate zone of the Northern Hemisphere of the globe, thirty-three degrees in width, which contains four-fifths of the land, nine-tenths of the people, and all the white races, commercial activity, and industry of the civilized world.

When, therefore, this interval of North America shall be filled up, the affiliation of mankind will be accomplished, proximity recognized, the distraction of intervening oceans and equatorial heats cease, the remotest nations grouped together and fused into one universal and convenient system of immediate relationship.

Such are some of the extraordinary attractions presented to mankind, as a social mass, by the position and configuration of the *Mississippi Basin*. There is another and superlative prospective view. This presents itself in contrasting the physical configuration of North America with the other continents.

Europe, the smallest in area of the continents, culminates in its centre into the icy masses of the Alps. From the glaciers, where all the great rivers have their sources, they descend the declivities and radiate to the different seas.

The Danube flows directly east to the Pontic Sea; the Po, to the Adriatic; the Rhone, to the Sea of Lyons; the Rhine, north to the German Sea. Walled off by the Pyrenean and Carpathian Mountains, divergent and isolated, are the Tagus, the Elbe, and other single rivers, affluents of the Baltic, the Atlantic, the Mediterranean, and the Pontic Sea.

Descending *from* common radiant points and diverging every way from one another, no intercommunication exists among the rivers of Europe towards their sources; navigation is petty and feeble. Art and commerce have never, during thirty centuries, united so many small valleys, remotely isolated by impenetrable barriers.

Hence upon each river dwells a distinct people, differing from all the rest in race, language, religion, interests, and habits. Though often *politically* amalgamated by conquest, they again relapse into fragments, from innate geographical incoherence. *Religious* creeds and *diplomacy* form no more enduring bond.

The history of these nations is a story of perpetual war, of mutual extermination; an appalling dramatic catalogue of a few splendid tyrannies crushing multitudinous millions of submissive and unchronicled serfs.

Exactly similar to *Europe*, though grander in size and population, is *Asia*.

From the stupendous central barrier of the Himalayas run the four great rivers of China, due *east*, to discharge themselves under the rising sun: towards the *south* run the rivers of Cochin China, the Ganges, and the Indus: towards the *west*, the rivers of the Caspian: and *north*, through Siberia to the Arctic Sea, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya Mountains have proved insuperable barriers to the amalgamation of the nations around their bases and dwelling in the valleys that radiate from their slopes.

The continents of Africa and South America, as far as we are familiar with the details of their surfaces, are even more than these perplexed into dislocated fragments.

In contrast, the interior of North America presents towards heaven an expanded, *concave* bowl, to receive and fuse into harmony whatsoever enters within its rim. So, each of the other continents presenting the *convex* surface of a bowl reversed, scatter everything from a central apex into radiant distraction.

Political societies and empires have in all ages conformed themselves to emphatic geographical facts. This *Democratic Republican empire* of North America is, then, *predestined* to expand and fit itself to the continent; to control the oceans on either hand, and eventually the continents beyond them. Much is uncertain, yet through all the vicissitudes of the future, this much of eternal truth is discernible.

In geography the *antithesis* of the old world, in society we are and will be the reverse. *Our* North America will rapidly accumulate a population equalling that of the rest of the world combined: a people one and indivisible, identical in manners, language, customs, and impulses: preserving the same civilization, the same religion; imbued with the same opinions, and having the same political liberties.

Of this we have two illustrations now under our eye, the one passing away, the other advancing. The *aboriginal* Indian race, amongst whom, from Darien to the Esquimaux, and from Florida to Vancouver's Island, exists a perfect identity in hair, complexion, features, religion, stature, and language: and, *second*, in the instinctive fusion into one language and into one new race of immigrant Germans, English, Norwegians, Celts, and Italians, whose individualities are obliterated in a single generation.

Thus, the perpetuity and destiny of our sacred Union find their conclusive proof and illustration in the bosom of nature. The political storms that periodically rage are but the clouds and sunshine that give variety to the atmosphere and checker our history as we march.

The possession of the *Basin of the Mississippi*, thus held in *unity* by the American people, is a supreme, a crowning mercy. Viewed alone in

its wonderful position and capacity among the continents and the nations; viewed, also, as the dominating part of the great calcareous plain formed of the conterminous Basins of the Mississippi, St. Lawrence, Hudson's Bay, and Athabasca, the amphitheatre of the world—here is supremely, indeed, the most magnificent dwelling-place marked out by God for man's abode.

Behold, then, rising now and in the future, the empire which industry and self-government create. The growth of half a century, hewed out of the wilderness—its weapons, the axe and plow; its tactics, labor and energy; its soldiers, free and equal citizens.

Behold the oracular goal to which our eagles march, and whither the phalanx of our States and people moves harmoniously on, to plant a *hundred States* and consummate their *civic* greatness.

CHAPTER VII.

PASTORAL AMERICA.

THERE has been a radical misapprehension in the popular mind as to the true character of the "*Great Plains of America*," as complete as that which pervaded Europe respecting the Atlantic Ocean during the whole historic period prior to COLUMBUS. These PLAINS are not *deserts*, but the opposite, and are the cardinal basis of the future empire of commerce and industry now erecting itself upon the North American Continent.

They are calcareous, and form the PASTORAL GARDEN of the world. Their position and area may be easily understood. The meridian line which terminates the States of Louisiana, Arkansas, Missouri, and Iowa on the west, forms their *eastern* limit, and the Rocky Mountain crest their *western* limit. Between these limits they occupy a longitudinal parallelogram of less than 1000 miles in width, extending from the Texan to the Arctic coasts.

There is no timber upon them, and single trees are scarce. They have a gentle slope from the *west* to the *east*, and abound in rivers. They are clad thick with nutritious grasses, and swarm with animal life. The soil is not silicious or sandy, but is a fine *calcareous* mould. They run smoothly out to the navigable rivers, the Missouri, Mississippi, and St. Lawrence, and to the Texan coast.

The mountain masses towards the *Pacific* form no serious barrier between them and that ocean.

No portion of their whole sweep of surface is more than 1000 miles from the most facile navigation. The prospect is everywhere gently undulating and graceful, being bounded, as on the ocean, by the horizon. Storms are rare, except during the melting of the snows upon the crest of the Rocky Mountains.

The climate is comparatively *rainless;* the rivers serve, like the Nile, to irrigate rather than drain the neighboring surface, and have few affluents. They all run from *west* to *east*, having beds shallow and broad, and the basins through which they flow are flat, long, and narrow. The area of the "Great Plains" is equivalent to the surface of the twenty-four States between the Mississippi and the Atlantic Sea. They are one homo-

geneous formation, smooth, uniform, and continuous, without a single abrupt mountain, timbered space, desert, or lake.

From their ample dimensions and position they define themselves to be the *pasture-fields of the world.* Upon them PASTORAL AGRICULTURE will become a separate grand department of continental industry.

The *pastoral characteristic*, being novel to our people, needs a minute explanation. In traversing the continent from the Atlantic beach to the South Pass, the point of greatest altitude and remoteness from the sea, we cross successively the *timbered* region, the *prairie* region of soft soil and long annual grasses, and finally the *Great Plains.* The two first are irrigated by the rains coming from the sea, and are *arable.*

The last is *rainless*, of a compact soil resisting the plow, and is, therefore, *pastoral.* The herbage is peculiarly adapted to the climate and the dryness of the soil and atmosphere, and is *perennial.* It is edible and nutritious throughout the year. This is the "*gramma*," or "*buffalo grass.*" It covers the ground one inch in height, has the appearance of a delicate moss, and its leaf has the fineness and spiral texture of a negro's hair.

During the melting of the snows in the immense mountain masses on the western frontier of the *Great Plains*, the rivers swell like the Nile, and yield a copious evaporation in their long sinuous courses across the Plains: storm-clouds gather on the summits, roll down the mountain flanks, and discharge themselves in vernal showers. During this temporary prevalence of moist atmosphere these delicate grasses grow, seed in the root, and *are cured into hay upon the ground* by the gradually returning drouth.

It is this longitudinal belt of perennial pasture upon which the buffalo finds his *winter food*, dwelling upon it without regard to latitude, and here are the infinite herds of *aboriginal* cattle peculiar to North America—buffalo, wild horses, elk, antelope, white and black-tailed deer, mountain sheep, the grisly bear, wolves, the hare, badger, porcupine, and smaller animals innumerable.

The aggregate number of this cattle, by calculation from sound data, exceeds *one hundred million.* No annual fires ever sweep over the *Great Plains;* these are confined to the *Prairie region.*

The Great Plains also swarm with poultry—the turkey, the mountain cock, the prairie cock, sage chickens, the sand-hill crane, the curlew. Water-fowl of every variety, the swan, goose, brant, ducks. Marmots, the armadillo, the peccary, reptiles, the horned frog. Birds of prey, eagles, vultures, the raven, and the small birds of game and song. The streams abound in fish. Dogs and demi-wolves abound.

The immense population of nomadic Indians, lately a million in num-

ber, have, from immemorial antiquity, subsisted exclusively upon these aboriginal herds. They are unacquainted with any kind of agriculture or the habitual use of vegetable food or fruits.

From this source the Indian draws exclusively his food, his lodge, his fuel, harness, clothing, bed, his ornaments, weapons, and utensils. *Here is his sole dependence from the beginning to the end of his existence.* The innumerable carnivorous animals also subsist upon them. The buffalo alone have appeared to me as numerous as the American people, and to inhabit as uniformly as large a space of country. The buffalo robe at once suggests his adaptability to a winter climate.

The Great Plains embrace a very ample proportion of *arable soil* for farms. The "*bottoms*" of the rivers are very broad and level, having only a few inches of elevation above the waters, which descend by a rapid and even current. They may be easily and cheaply saturated by all the various systems of artificial irrigation, azequias, artesian wells, or flooding by machinery.

Under this treatment the soils, being alluvial and *calcareous*, both from the sulphate and carbonate formations, return a prodigious yield, and are independent of the seasons. Every variety of grain, grass, vegetable, the grape and fruits, flax, hemp, cotton, and the flora, under a perpetual sun, and irrigated at the root, attain extraordinary vigor, flavor, and beauty.

The Great Plains abound in fuel, and the materials for dwellings and fencing. Bituminous coal is everywhere interstratified with the calcareous and sandstone formation; it is also abundant in the flanks of the mountains, and is everywhere conveniently accessible. The dung of the buffalo is scattered everywhere.

The order of vegetable growth being reversed by the aridity of the atmosphere, what show above as the merest bushes, radiate themselves deep into the earth, and form below an immense arborescent growth. Fuel of wood is found by digging.

Plaster and lime, limestone, freestone, clay, and sand, exist within the area of almost every acre. The large and economical *adobe* brick, hardened in the sun and without fire, supersedes other materials for walls and fences in this dry atmosphere, and, as in Syria and Egypt, resists decay for centuries. The dwellings thus constructed are most healthy, being impervious to heat, cold, damp, and wind.

The climate of the *Great Plains* is favorable to health, longevity, intellectual and physical development, and stimulative of an exalted tone of social civilization and refinement.

The American people and their ancestral European people have dwelt

for many thousand years exclusively in countries of timber and within the region of the *maritime* atmosphere: where winter annihilates all vegetation annually for half the year: where all animal food must be sustained, fed, and fattened by tillage with the plow: where the *essential* necessities of existence, food, clothing, fuel, and dwellings, are secured only by constant and intense manual toil.

To this people *heretofore*, the immense empire of *pastoral agriculture*, at the threshold of which we have arrived, has been as completely a blank, as was the present condition of social development on the Atlantic Ocean and the American Continent, to the ordinary thoughts of the antique Greeks and Romans.

Hence this immense world of plains and mountains; occupying three-fifths of our continent; so novel to them and so exactly contradictory in every feature to the existing prejudices, routine, and economy of society, is unanimously pronounced an *uninhabitable desert.*

To any reversal of such a judgment, the unanimous public opinion, the rich and poor, the wise and ignorant, the famous and obscure, agree to oppose unanimously a dogmatic and universal deafness. To them, the delineations of travellers, elsewhere intelligent, are here tinged with lunacy; the science of geography is befogged; the sublime order of Creation no longer holds, and the supreme engineering of God is at fault and a chaos of blunders!

The PASTORAL REGION is *longitudinal.* The bulk of it is under the Temperate Zone, out of which it runs into the Arctic Zone on the north, and into the Tropical Zone on the south. The parallel Atlantic *arable* and *maritime* region flanks it on the east; that of the Pacific on the west. The Great Plains, then, at once separate and bind together these flanks, rounding out both the variety and compactness of arrangement in the elementary details of society, *which enables a continent to govern itself with the same ease as a single city.**

* Such an internal adjustment of society, expanding itself uniformly over the whole area of the continent, accompanies incidentally and of necessity its grand architecture.

The physical anatomy, auspicious and consistent in all its details, the intense range of variety, the neighborhood and compactness of these elements so various in configuration, warmth, altitude, and production, all conspire to dictate fusion and order. They correct and render impossible what is hostile and opposite to them.

The *conventionalities* which anticipate tumult will assert, establish, and perpetuate themselves.

The experiences of history arm us with precedents for our guidance, and instruct our judgments. They predict for us a wholesome employment of our energies, accompanied by a subtle and zealous discipline competent to anticipate and to restrain disorder.

Assuming, then, that the advancing column of progress, having reached and established itself in force all along the eastern front of the *Great Plains*, from Louisiana to Minnesota: having, also, jumped over and flanked them to occupy California and Oregon:—

Assuming that this column is about to *debouch* to the front and occupy them with the embodied impulse of our *fifty* millions of population: heretofore scattered upon the flanks, but now converging into phalanx upon the centre: some reflections, legitimately made, may cheer the timid, and confirm those who hesitate from old opinion and the prejudices of adverse education.

It is well established that *six-tenths* of the food of the human family is, or ought to be, animal food, the result of *pastoral* agriculture. The cattle of the world consume eight times the food per head, as compared with the human family. Meat, milk, butter, cheese, poultry, eggs, wool, leather, honey, are the productions of pastoral agriculture. Fish is the spontaneous production of the water.

Nine-tenths of the labor of *arable* culture is expended to produce the grain and grasses that sustain the present supplies to the world of the above enumerated articles of the *pastoral* order. If, then, a country can be found where *pastoral* produce is *spontaneously* sustained by nature, as fish in the ocean, it is manifest that arable labor, being reduced to the production of bread food only, may condense itself to a very small percentage of its present volume, and the *cultivated* ground devoted to grain and grass be greatly reduced in acres.

By the census of 1850, the *pastoral culture* of the American people resulting exclusively from the plow, exhibits the following aggregate:—

Cattle of all kinds	18,378,907
Horses and mules	4,896,050
Sheep	21,722,220
Swine	30,334,213
Value	$655,883,658

It is probable that the aggregate *aboriginal* stock of the Great Plains still exceeds in amount the above table. It is all *spontaneously* supported by nature, as is the fish of the sea.

Every kind of our domestic animals flourishes upon the Great Plains equally well with the wild ones. Three tame animals may be substituted for every wild one, and vast territories re-occupied, from which the wild

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The ancient discordances between *urban* and *rural* populations, manners, and temper, will find their asperities mutually modified. Society, rectified by reflection from the propitious powers of Nature, will insensibly ascend to an exalted level, illustrating the perpetual dominance and activity of peace, *industry*, and concord.

stock has been exterminated by indiscriminate slaughter and the increase of the wolves.

The American people are about, then, to inaugurate a *novel* and immense order of industrial production: PASTORAL AGRICULTURE.—Its fields will be the *Great Plains* intermediate between the oceans. Once commenced, it will develop very rapidly.

We trace in their history the successive inauguration and systematic growth of several of these distinct orders: The *tobacco* culture, the *rice* culture, the *cotton* culture, the immense provision culture of *cereals* and *meats*, *leather* and *wool*, the *gold* culture, *navigation* external and internal, *commerce* external and internal, *transportation* by land and water, the *hemp* culture, the *fisheries*, *manufactures*.

Each of these has arisen as time has ripened the necessity for each, and noiselessly taken and filled its appropriate place in the general economy of our *industrial* empire.

This *pastoral* property transports itself on the hoof, and finds its food ready furnished by nature. In these elevated countries fresh meats become the preferable food for man, to the exclusion of bread, vegetables, and salted articles.

The atmosphere of the *Great Plains* is perpetually brilliant with sunshine, tonic, healthy, pungent, and inspiring to the temper. It corresponds with and surpasses the historic climate of Syria and Arabia, from whence we inherit all that is ethereal and refined in our system of civilization, our religion, our sciences, our alphabet, our numerals, our written languages, our articles of food, our learning, and our system of social manners.

As the *site* for a great central *metropolitan* city of the "*Basin of the Mississippi*" to arise prospectively upon the developments now maturing, Kansas City, at the mouth of the Kansas River, has the start, the geographical position, and the existing elements with which any rival will contend in vain.

It is the focal point where three developments, now near ripeness, will find their *river port*. 1. The pastoral development. 2. The gold, silver, and salt production of the Sierra San Juan. 3. The continental railroad from the Pacific.

These great fields of enterprise will all be recognised and understood by the popular mind, and will be under vigorous headway within the mature life of the existing generation.

There must be a great city here, such as antiquity built at the head of the Mediterranean and named Jerusalem, Tyre, Alexandria, and Constantinople; such as our own people name New York, New Orleans, San Francisco, St. Louis.

CHAPTER VIII.

THE SYSTEM OF THE PARCS.

In proportion as curiosity, warmed by the expanding energy of progress now everywhere palpitating with activity and fresh fire, extends our researches into every detail of our *entire* country, we are astonished and awed by the splendid magnitude of its architecture, and by the faultless grace and consistency of its anatomy.

The Mountain System sparkles everywhere, and is checkered with the most startling beauties. The special recurrence of Parcs, which are innumerable, and are lavishly scattered over its *area*, has pre-eminent significance.

These are charming *valleys*, accompanying the rivers. They surround their sources, or expand from their channels, between the mountain battlements, among which they flow.

Each is an amphitheatre. They maintain everywhere an undeviating rectitude of proportion, fitted in size to the volume of the rivers and mountains. Fertility and enchanting scenery mark them all. The most generous wealth of streams and vegetation are unfailing.

In the *latitudinal* courses of the mountain structures of the other continents, *the favorable sunshine being absent*, this form of valleys is either wanting, or they are unattractive. Those known to fame, are Kashmere in Asia: Constance and Geneva, encased within the Alps of Europe. These bowls are occupied by water surfaces, and are unfitted for habitation.

The Parcs of the North American Andes find their culmination of superlative grandeur in the System of the Four Parcs of Colorado.

This System towers over and crowns the whole Continental structure. Mortised down, many thousand feet, into the ample expanse of the flattened cone, encircled by all the other North American mountains, they surround the sources and shed out all the grand *arterial* rivers, which radiate to all the seas.

Here is the supreme dome, which surmounts the heart of North America!

Favored by their immense dimensions, and screened by an uninterrupted envelope of primary mountain edifices; the climatic elements happily balanced; give to their atmosphere a perpetual *vernal* temperature; intense serenity and the most gorgeous splendor.

They are *bisected* successively, through and through, by the *one hundred and sixth* meridian.

Each one *singly* is of marvellous size, excellence of form, and eminent beauty.

The group, as they are blended into one system, is miraculous! This springs from its dominating continental position: from the juxtaposition: from the immediate contact: from the intense variety and supreme grace illustrating every detail and pervading the entire structure.

Restricted especially to the SYSTEM OF THE FOUR PARCS OF COLORADO; the *San Luis Parc* is readily entered at the extreme north through the Puncho Pass, penetrating the Cordillera from the Arkansas River. This parc, of elliptical form, and immense dimensions, is enveloped between the Cordillera and Sierra Mimbres.

It has its extreme northern point between these two Sierras, where they separate by a sharp angle and diverge; the former to the southeast, and the latter to the southwest.

The latitude of the Puncho Pass is 38° 30′, the longitude 106°. It is one hundred and twenty-five miles *southwest* from Denver, and thirty-seven miles due *west* from Cañon City.

Emerging from the Puncho Pass, the waters begin to gather and form the *San Luis River*. This flows to the south, through a valley of great beauty, which rapidly widens to the right and left.

On the east flank, the Cordillera ascends abruptly and continuously, without any foot-hills, to a sharp, snowy summit. On the west, foot-hills and secondary mountains, rising one above the other, entangle the whole space of the *Sierra Mimbres*.

The Sawatch River has its source on the inner (*eastern*) flank of the Sierra Mimbres, about sixty miles south of its angle of divergence from the Cordillera, and, by a course nearly east, converges toward the lower San Luis River. It enters upon the parc by a similar valley.

These two valleys expand into one another around this mass of foot-hills, fusing into the open parc, whose centre is here occupied by the *San Luis Lake*, into which the two rivers converge and discharge their waters.

The San Luis Lake, extending *south* from the point of the foot-hills, occupies the centre of the parc for sixty miles. It forms a *bowl* without any outlet to its waters. It is encircled by immense saturated savannas of luxuriant grass.

Its water surface expands over this *savanna* during the season of the melting snows upon the Sierras, and shrinks when the season of evaporation returns. From the flanks of the Cordillera on the east, at intervals of six or eight miles asunder, and at very equal distances, *fourteen* streams other than the San Luis, descend and converge into the *San Luis Lake.*

The belt of the sloping plain between the mountains and the lake, traversed by so many parallel streams, bordered by meadows and groves of cottonwood-trees, has from this feature the name of "Los Alamos." It is sixty miles in length and twenty wide.

On the opposite (*western*) side from the flank of the Sierra Mimbres, similar streams descend from the west into the lake, known as the *Sawatch*, the *Carnero*, and the *Gareta.*

The confluent streams thus converging into the San Luis Lake are *nineteen* in number. The area thus occupied by this isolated lake and drained into it by its converging affluents, forming distinctly one-third of the whole surface of the parc, is classified under the general name of "*Rincon.*"

Advancing onward to the south along the *west* edge of the plain, ten miles, from the Gareta, the Rio del Norte River issues from its mountain gorge. Its source is in the perpetual snows of the peaks of the *San Juan*, the local name given to this stupendous culmination of the Sierra Mimbres.

The Del Norte flows from its extreme source due *east* one hundred and fifty miles, and having reached the longitudinal middle of the *parc*, turns abruptly south, and, bisecting the parc for perhaps *one hundred and fifty miles*, passes beyond its rim in its course to the Gulf of Mexico.

All the streams descending from the enveloping Sierras (other than the Alamos) converge into it their tributary waters. On the west come in successively the *Pintada*, the *Rio del Gata*, the *Rio de la Gara*, the *Conejos*, the *San Antonio* and *Piedra.*

These streams, six or eight miles asunder, parallel, equidistant, fed by the snows of the *Sierra Mimbres*, have abundant waters, very fertile areas of land, and are all of the very highest order of beauty.

Advancing again from the *Rincon*, at the eastern edge of the plain along the base of the Cordillera, the prodigious conical mass of the *Sierra Blanca* protrudes like a vast hemisphere into the plain and blocks the vision to the direct south. The road describes the arc of a semicircle around its base for thirty miles and reaches Fort Garland.

In the immediate vicinity of Fort Garland, the *three* large streams, the Yuta, the Sangre de Cristo, and the Trinchera, descend from the Cordillera, converge, unite a few miles west, and, blending themselves in the Trinchera, flow west twenty-four miles into the Rio del Norte.

The line of the snowy Cordillera, hidden behind the bulk of the *Sierra Blanca*, here again reveals itself pursuing its regular *southeast* course and direction. *Fourteen* miles south is reached the town of *San Luis*, upon the *Culebra* River; *seventeen* miles further is the town of *Costilla*, upon Costilla River.

Fifteen miles further the town of *Rito Colorado* is reached: *eighteen* miles farther onward the Arroyo Hondo (between these is the San Cristoval): from the Arroyo Hondo to *Taos* is fourteen miles; twenty miles beyond Taos is the mountain chain whose circle towards the west forms the southern mountain barrier which encloses the *San Luis Parc* in that direction.

The *San Luis Parc* is then an immense *elliptical* bowl, the bed of a primeval sea which has been drained: its bottom, smooth as a water surface, and concave, is 9400 square miles in area. It is watered by *thirty-five* mountain streams, which, descending from the encircling crest of snow, converge *nineteen* into the San Luis Lake, the rest into the Rio del Norte.

An extraordinary symmetry of configuration is its prominent feature. The scenery, everywhere sublime, has the ever-changing variety of the kaleidoscope. Entirely around the edge of the plain, and closing the junction of the plain with the mountain's foot, runs a smooth glacis, exactly resembling the sea-beach which accompanies the conjunction of the land with the ocean.

From this *beach* rise continuously, all around the horizon, the great mountains, elevating their heads above the line of perpetual snow. On the *eastern* side the escarpment of the Cordillera rises rapidly, and is abrupt; on the *western* side the crest of the *Sierra Mimbres* is more remote, having the interval filled with ridges, lessening in altitude as they descend to the plain of the parc.

This continuous shelving flank of the Sierras, completing a perfect amphitheatre, has a superficial area equal to that of the level plain which it envelopes, and gives to the whole enclosure within the encircling band of snow an area of 18,000 square miles.

At an elevation of five or six thousand feet above the plain, a level line upon the mountain wall marks the cessation of arborescence, above which naked granite and snow alone are seen.

To one who ascends to this elevation at any point, the whole interior of this prodigious *amphitheatre*, displaying an elliptical area of 11,520,000 acres, is scanned by the eye and swept in at a single glance. Aided by a glass, the smallest objects scattered over the immense *elliptical* area beneath are discernible through the limpid, brilliant, and translucent atmosphere.

Two facts impress themselves upon the senses: the perfect symmetry of configuration in nature, and the intense variety in the form and splendor of the landscape. The colors of the sky and atmosphere are intensely vivid and gorgeous; the dissolving tints of light and shade are forever interchanging; they are as infinite as are the altering angles of the solar rays in his diurnal circuit.

The average elevation of the plain above the sea-level is 6400 feet. The highest peaks have an altitude of 16,000 feet above the sea. In the serrated rim of the parc, as seen from the plain, projected against the canopy, are discernible seventeen peaks, at very equal distances from one another. Each one differs from all the rest in some peculiarity of shape and position. Each one identifies itself by some striking beauty. From the snows of each one descends some considerable river, as well within the parc, as *outward* down the external mountain back.

We recognize, therefore, in the San Luis Parc an immense *elliptical* basin, enveloping the sources of the Rio Bravo del Norte. It is isolated in the heart of the continent, 1200 miles from any sea. It is mortised, as it were, in the midst of the vast mountain bulk, where, rising gradually from the oceans, the highest altitude and amplitude of the continent is attained.

This parc spreads its plain from 36° to 38° 30′, and is bisected by the 106th meridian. Its greatest length is 210 miles; its greatest width is 100 miles; its aggregate approximate area is 18,000 square miles.

Such being the *geographical* position, altitude, and peculiar unique configuration, these features suggest the inquiry into parallel peculiarities of *meteorology*, *geology*, *physical structure*, *agriculture*, *mineralogy*, and the *economy* of labor.

The American people have heretofore developed their social system exclusively on the borders of the two oceans, and within the maritime valleys of moderate altitude, having navigation and an atmosphere influenced by the sea. To them, then, the contrast is complete in every feature, in these high and remote altitudes, beyond all influence of the ocean, and specially *continental*.

There is an identity between the "Valley or Parc of the City of Mexico" and the San Luis Parc which ought to be here mentioned. They are similar *twin* basins of the great PLATEAU, classifying together in the physical structure of the continent. Mexico is in latitude 20°, longitude 99°, and has an altitude of 7500 feet.

The width of the *continent* is here 575 miles from ocean to ocean, and the divergence of the Cordilleras is 275 miles, which here is the width of the PLATEAU.

At the 39th degree, the continent expands to a width of 3500 miles between the oceans; the Cordilleras have diverged 1200 miles asunder, and the PLATEAU has widened to the same dimensions. In harmony with the great expansion of the continent are all the details of its interior structure.

The "*Parc of the City of Mexico*" is but one-tenth in size and grandeur as compared and contrasted with the San Luis Parc. It has an area, including the water surface of five lakes, of 1,278,720 acres. Of identical anatomy, the former is a pigmy; the latter a giant. The similitude as component parts of the mountain anatomy is in all respects absolute, as is also true of the other parcs, which occupy longitudinally the centre of the State of Colorado.

In METEOROLOGY the atmospheric condition of the San Luis parc, like its scenery, is one of constant brilliancy, both by day and night; obeying steady laws, yet alternating with a playful methodical fickleness.

There are no prolonged vernal or autumnal seasons. Summer and winter divide the year. Both are characterized by mildness of temperature. After the *autumnal* equinox, the snows begin to accumulate on the mountains. After the *vernal* equinox they dissolve. The formation of light clouds upon the crest of the Sierras is incessant.

The meridian sun retains its vitalizing heat around the year; at midnight prevails a corresponding tonic coolness. The clouds are wafted away by steady atmospheric currents coming from the west. They rarely interrupt the sunshine, but, refracting his rays, imbue the canopy with a shining silver light, at once intense and brilliant. The atmosphere and climate are essentially *continental*, being uninterruptedly salubrious, brilliant, and tonic.

The flanks of the great mountains, bathed by the embrace of these irrigating clouds, are clad with great forests of pine, fir, spruce, hemlock, aspen, oak, cedar, piñon, and a variety of smaller fruit-trees and shrubs, which protect the sources of the springs and rivulets.

Among the forests, alternate mountain meadows of luxuriant and nutritious grass. The ascending clouds, rarely condensed, furnish little irrigation at the depressed elevation of the plains, which are destitute of timber but clothed in grass. These delicate grasses, growing rapidly during the annual melting of the snows, cure into hay as the aridity of the atmosphere returns. They form perennial pastures, and supply the winter food of the aboriginal cattle, everywhere indigenous and abundant.

An infinite variety in temper and temperature is suggested as flowing from the juxtaposition of extreme altitudes and depressions; permanent

snows, running rivers, and the concentric courses of the mountains and rivers. Nature is benignant and graceful throughout her whole plan, and is propitious in the working of all her laws and in every element.

The *longitudinal* Sierras receive and absorb the glory of the morning and of the evening sun upon their flanks, the noontide beams upon their summits; they cast no chilling shadow.

Within the bowl of the parc, the heat of the shining sun accumulates; when the sun has set, this heated atmosphere ascends; simultaneously the colder atmosphere descends from the engirdling rim of snow. These atmospheres permeate broadcast the one the other, through and through; each one tempers the other by this play of natural transition.

The snows of the altitudes are constantly attacked and their excessive accumulation defeated: no glaciers form to enclose the rocks and vegetation, as in a perpetual tomb. The heat of the concave plain is in a like manner tempered to a genial standard; irrigation and the streams are constantly maintained; vegetation constantly and as uniformly nurtured to maturity.

Storms of rain and wind are neither frequent nor lasting. The air is uniformly dry, having a racy freshness and an exhilarating taste. A soothing serenity is the prevailing impression upon those who live perpetually exposed to the seasons. Mud is never anywhere or at any time seen. Moderation and concord appear to result from the presence and contact of elements so various.

The critical conclusions to which a rigid study of nature brings the scrutinizing mind are the reverse of first impressions. The multitudinous variety of nature adjusts itself with a delicate harmony which brings into healthy action the *industrial* energies.

There is no use for the practice of professional pharmacy. Chronic health and longevity characterize animal life. The envelope of cloud-compelling peaks: the seclusion from the oceans: the rarity of the air inhaled, and the absence of humidity: disinfect the earth, the water, and the atmosphere of exhalations and *miasmas*. Health, sound and uninterrupted, stimulates and sustains a high state of mental and physical energy. All of these are burnished, as it were, by the perpetual brilliancy and salubrity of the atmosphere and landscape; whose unfailing beauty and tonic taste stimulate and invite the physical and mental energies to perpetual activity.

As to its GEOLOGY and MINERALS, the San Luis Parc is in the highest degree interesting and remarkable. It is found to contain, intermingled and in order, a complete *epitome* of all the elements of which geological science and research take note. Its intramural locality between the pri-

meval crests of the Cordillera, on the *east*, and the Sierra Mimbres (here called the "*San Juan*"), on the *west*, multiplies this variety indefinitely.

These *primary* Sierras, separated by the parc, face one another in full sight, as they rear their flanks from the opposite edges of the concave plain. The successive periods and stupendous forces which have expended themselves to produce what is in sight, and then subsided to an eternal rest, each particularly manifests itself.

The *comb of the Sierra* presents the prodigious plates of *primeval* porphyry driven up, as the subsoil of a furrow, from the lowest terrestrial crust and protruding their vertical edges toward the sky.

The summit, yielding to the corroding forces, presents a wedge toward the canopy; is arranged in peaks resembling the teeth of a saw, is above all arborescence, and is either clad in perpetual snow, or is bald rock.

Against this is lapped perpendicularly the second stratum, less by many thousand feet in altitude, its top forming a *birm* or bench. This *bench* being the rended edge of the erupted stratum, softer than the first and receiving the débris from above, has a deep, fertile soil, a luxuriant *alpine* vegetation, forests of fir and aspen, and is the *highest* region of arborescence and vegetable growth.

This is the region of rocks, where the metals, *especially gold and silver*, abound in crevices charged and infused with the richest ores. It is from hence that the gold of the gulches is disintegrated and descends. Here are springs of water and the sources of rivers. The timber is excellent and the pastures of various grasses luxuriant and inexhaustible. Swept by ascending currents of vapor, irrigation is constant.

This elevated *bench* is a permanent characteristic of the mountain flank, continuous as the *continent itself;* a colossal staircase, whose steps are themselves of mountain magnitude. It is here, at these surfaces of contact of the erupted plates of the lowest terrestrial crust, that the thread of the "*gold belt*" is revealed and found. From this thread, as from a core outward, the precious metals taper in quantity and become diluted in the immensity of the rocks, as a hill of rock salt disappears to the eye, dissolved in the immensity of the ocean.

The top of this continuous *bench* is undulating, broad, and occasionally crossed by transverse ridges and the chasms of water-courses descending from above. The front flank of this *bench* forms the stupendous escarpment of the mountains, everywhere lofty and precipitous. It is cut through by innumerable streams, up whose gorges access to the upper regions is attained, and the internal contents, the *intestines*, as it were, of the rocks are revealed to sight and search.

Forming the pediment of this stupendous mural escarpment is the *second birm* or *bench* (being the lowest) in the general mountain descent. Here the approaching elevation of the plain: the increase in size of the streams: the accumulating débris from above, and the increased atmospheric abrasion: all unite to obliterate the angularity of the rocks, and impair the striking distinctness of formation.

Forests of pine and deciduous trees prevail. The flora and vegetation is abundant and various. The atmospheric irrigation becomes uncertain, and the rocks are covered with soil or the fragments of their own superficial destruction. Immediately following is the broad space occupied by the fusion of the mountain base and the plain gently ascending to meet it. Here is a profile infinitely indented and broken; alternately the sloping ridges protrude their ribs into the plain, and the plain advances its valleys between them, to receive the streams. This is the region of the *placers*, where is checked in its descent and lodged beneath the alluvial soil the free gold washed down by torrents from the overhanging summits.

This sketch of the *normal* structure and configuration of the Cordillera is illustrated by a checkered list of details in its minute elements. The *primeval* rocks, heated to incandescence, rest in their vertical positions unaltered from their original form; they have been roasted but not liquefied.

Original strata of limestone and gypsum, uplifted on high but not destroyed, rest upon the summits as a torn hat. Gypsum, limestone, slates, clays, shale, earths, and salts are thus found near the highest summits. The decay of the secondary rocks gives extraordinary fertility to the mountain flanks, and to the alluvial bottoms below. Hence the luxuriance of the arborescence, the pastures, and the flora.

The altitude of the summits gathers and retains the snows, whose glaciers give birth to innumerable rivers. These gash the precipitous flanks with chasms, up which roads ascend. The composition of the rocks is here revealed; the mysteries of their interior contents are unravelled, and the secretions of nature subjected to the human eye and hand.

Thus, then, erects itself the *primeval* Cordillera, constructed of horizontal plates, vertically thrown up by stupendous volcanic forces, partially altered and roasted by incandescent heat, but neither destroyed nor recast in form. The secondary rocks are tossed and scattered high in the upper regions, but are not calcined by flame.

The metallic ores are as various as the variety of the rocks, *enriched* by heat and exposed by upheaval and corrosion. No lava, no pumice, no obsidian, nothing of melted matter from the Plutonic region is seen. This furrowing of the terrestrial crust has alone occupied and exhausted the stupendous volcanic throes of the subterranean world of fire.

The SIERRA MIMBRES, forming the western envelope of the Pare, is not dissimilar to the *Cordillera* in its origin, composition, and configuration. Rising from the level of the great PLATEAU, it is of inferior bulk and rank. It forms the backbone from whose contrasted flanks descend the waters of the Rio del Norte, on the *east*, and the Rio Colorado, on the west.

Craters of extinct volcanoes are numerous; streams of lava, once liquid, abound; *pedriguls* of semi-crystalline basalt submerge and cover the valley into which they have flowed, and over which they have hardened.

This Sierra, then, has a general direction from *north to south*, corresponding with the 109th meridian. It has all the characteristics in *miniature* of the Cordillera, but is checkered and interrupted by the escape of subterranean fires, having areas overflowed and buried beneath the erupted current. Where the nascent springs of the Rio del Norte have their birth, the Sierra Mimbres culminates to stupendous peaks of perennial snow, *locally* named SIERRA SAN JUAN.

The concave plain of the San Luis Pare, begirt by this *elliptical* zone of the Sierras, thus capped with a ragged fringe of snow projected upward against the canopy, is the receptacle of their converging waters. It is a bowl of vast amplitude. It has for countless ages received and kept the sedimentary settlings of so prodigious a circuit of the Sierras. It is builded up with every variety of form, structure, and geological elements elsewhere found to enter into the architecture of nature.

Hither descend the currents of water, of the atmosphere, of lava. The rocks rent from the naked pinnacles, tortured by the intense vicissitudes which assail them;, the fragments rolled by the perpetual pressure of gravity upon the descending slopes; the sands and soils from the foundations of rocks and clays of every gradation of hardness; the *humus* of expired forests and annual vegetation; elements carbonized by transient fires; organic decay; all these elements descend, intermingle, and accumulate.

This *concave plain* is, then, a bowl filled with sedimentary drift, covered with soil, and varnished over, as it were, with vegetation. The northern department of Abiseo, closely embraced by the Sierras, and occupied by the San Luis Lake, is a vast savanna deposited from the filtration of the waters, highly impregnated with the mountain *debris*. Beneath this soil is a continuous pavement of *peat*, which maintains the saturation of the superincumbent, and is admirable for fuel.

The middle region of the plain, longitudinally, displays a crater of the most perfect form. The interior pit has a diameter of twenty miles, from the centre of which is seen the circumferent wall forming an exact circle,

and in height five hundred feet. This wall is a barranca, composed of lava, pumice, calcined lime, metamorphosed sandstone, vitrified rocks, and obsidian.

This circumferent barranca is perforated through by the entrance and departure of the Rio del Norte, the Culebra, and the Costilla Rivers, which traverse the northern, western, and southern edges of the interior.

By this and other forces of corrosion this barranca is on three sides cut into isolated hills, called *cerritos*, of every fantastic form and of extraordinary beauty of shape and tints. The bottom of the crater has been filled up with the soils resulting from the decay of this variety of material, introduced by the currents of the water and of the atmosphere. It is bevelled by these forces to a perfect level; is of the fattest fertility, and drained through the porous formation which underlies it.

From this crater to its southern rim, a distance of sixty-five miles, the Parc expands over a prodigious *pedrigal*, formed from it in the period of volcanic activity. This pedrigal retains its level, and is perforated by the Rio del Norte, whose longitudinal course is confined in a profound chasm or cañon of perpendicular walls of lava, increasing to the depth of 1200 feet, where it debouches from the jaws of this gigantic flood of lava, near the village of La Joya, in New Mexico.

Such are the extraordinary forms and stupendous dimensions with which nature here salutes the eye and astonishes the imagination. The expansion of the lava is all to the south, following the descent toward the sea. Toward the north, repelled by the ascent, are waves demonstrating the defeated effort to climb the mountain base.

Such is an imperfect sketch of this wonderful *amphitheatre of the Sierras*. Its physical structure, infinitely complex, exhibiting all the elements of nature piled in contact, yet set together in order and arranged in harmony; its cloud-compelling Sierras, of stern primeval matter and proportions; its *concave* basin of fat fertility; its atmosphere of dazzling brilliancy, tonic temperature, and gorgeous tints; its *arable* and *pastoral* excellence, grand forests, and multitude of streams; its infinite variety of mines and minerals, embracing the whole catalogue of metals, rocks, clays, salts, and fuel; its capacity to produce grain, flax, wool, hides, vegetables, fruits, meat, poultry, and dairy food; the compact economy of arrangement which blends and *interfuses* all these varieties; these combine to provoke, stimulate, and reward the taste for physical and mental labor.

Entrance and *exit* over the rim of the parc is everywhere made easy by convenient passes. Roads re-enter upon it from all points of the compass and every portion of the surrounding continent. These are not obstructed at any season.

On the *north* is the Puncho Pass, leading to the Upper Arkansas River, and into the South Parc. On the *east*, the Mosche and Sangre de Cristo Passes debouch immediately upon the *Great Plains*. On the *south* is the channel of the Rio del Norte. On the *west*, easy roads diverge to the rivers Chamas, San Juan, and toward Arizona. In the *northwest* the Cocha-to-pee opens to the Great Salt Lake and the Pacific. Convenient thoroughfares and excellent roads converge from all points, and diverge with the same facility.

The system of the four parcs, extending to the north, indefinitely amplifies and repeats all that characterizes the San Luis Parc. Smaller in size and less illustrated by variety, each one of the three by itself lingers behind the San Luis, but is an equal ornament in the same family. Their graceful forms, their happy harmony of contact and position, make their aggregated attractions the fascinating charm and glory of the American continent.

The abundance and variety of *hot springs*, of every modulation of temperature, is very great. These are also equalled by waters of medicinal virtues. It has been the paradise of the *aboriginal* stock, elsewhere so abundant and various. Fish, water-fowl, and birds of game and song and brilliant plumage frequent the streams and groves. Animal life is infinite in quantity and abundantly various.

THE ATMOSPHERIC CURRENTS, which sweep away every exhalation and all traces of malaria and miasma, have an undeviating rotation. These currents are necessarily vertical in direction and equable in force, alternating smoothly as land and sea currents of the tropical islands of the ocean. The silence and serenity of the atmosphere are not ruffled; the changing temperature alone indicates the motion of nature.

All around the *elliptical* circumference of the plain, following, as it were, its shore, and bending with the indented base of the mountains, is an uninterrupted road of unparalleled excellence. This circuit is five hundred miles in length, and is graced with a landscape of uninterrupted grandeur, variety, and beauty.

On the one hand the mountains, on the other hand the *concave* plain diversified with groves of alamos and volcanic *cerritos*. At short intervals of five or ten miles asunder, are crossed the swift running currents and fertile meadows of the converging mountain streams. *Hot springs* mingle their warm water with all these streams, which swarm with delicate fish and water-fowl.

The works of the beaver and otter are everywhere encountered, and water-power for machinery is of singularly universal distribution. *Agriculture* classifies itself into *pastoral* and *arable;* the former subsisting on

the perennial grasses; the latter upon irrigation everywhere attained by the streams and artificial azequias.

This *concave* configuration and symmetry of structure is remarkably propitious to economy of labor and production, favored by the juxtaposition and variety of material, by the short and easy transport, and by the benignant atmosphere.

The supreme excellence of position, structure, and productions thus grouped within the system of the PARCS OF COLORADO, occupying the heart of the continental home of the American people, is conclusively discernible. Here is the focus of the mountains, of the great rivers, and of the metals of the continent.

The great rivers have *here* their extreme sources, which interlock and form innumerable and convenient passes from sea to sea. From these they descend smoothly to both oceans by continuous gradations. The parcs occupy the *fortieth degree*, and offer the facilities for a lodgment in force, at the highest altitude. *Here* the supreme divide of the continent exists, half-way between the trough of the Mississippi and the Pacific shore. Being immediately approachable over the Great Plains, their mines of precious metals are the nearest in the world to the social masses of the American people and to their great commercial cities. Their accessibility is perfect.

All the elements of a perfect economy, food, health, geographical position, innumerable mines of the richest ores and every variety, erect, assist, and fortify one another. Within and around this *parc*, so grand in dimensions and harmonious in structure and locality, is preparing itself the mining laboratory of the world.

The rare economy in architecture, climate, inter-oceanic convenience, prolific food, miscellaneous materials and metals, constitute and locate here the *paragon indeed* of all geographical positions.

The San Luis Parc has *twenty-four thousand* population. These people are of the Mexican-American race. Since the conquest of Cortez, A.D. 1520, the *Mexican* people have acquired and adopted the language, and in modified forms, the political and social systems of their European rulers. A taste for seclusion has always characterized the *aboriginal* masses, heightened by the geographical configuration of their peculiar territory.

Upon the PLATEAU, elevated 7000 feet above the oceans, and encased within an uninterrupted barrier of snow, reside 9,000,000 of homogeneous people. An instinctive terror of the ocean, of the torrid heats and malarious atmosphere of the narrow coast on either sea, perpetually haunts the natives of the PLATEAU.

To them navigation is unknown, and *maritime* life is abhorrent. The

industrial energies of the people, always active and elastic, and always recoiling from the sea, have expanded to the north, following the longitudinal direction of the great rivers. *This column of progress advances from south to north;* it ascends the Rio Bravo del Norte; it has reached and permanently occupies the *southern* half of the San Luis Parc.

At the same moment the column of the American people, advancing in force across the middle belt of the continent, from *east* to *west*, is solidly lodged upon the eastern flank of the Cordillera, and is everywhere entering the parcs through its passes.

These two American populations, all of the Christian faith, here meet front to front, harmonize, intermarry, and reinvigorate the blended mass with the peculiar domestic accomplishments of each other.

The *Mexican* contributes his primitive skill, inherited for centuries without change, in the manipulations of *pastoral* and *mining* industry, and in the tillage of the soil by artificial irrigation. The *American* adds to these machinery and the intelligence of expansive progress. The grafted stock has the sap of both.

As the coming continental railways hasten to bind together our people isolated on the seas, A LONGITUDINAL RAILWAY of 2000 miles will unite with these in their middle course, bisecting the Territory, States, and cities of 10,000,000 of affiliated people. This will fuse and harmonize the isolated populations of our continent into one people, in all the relations of commerce, affinity, and concord.

CHAPTER IX.

THERMAL AMERICA.

To the American who *assembles within his mental glance* every detail of our entire country, from a position correctly selected and rightly understood, a vision of unparalleled splendor is unveiled.

There is revealed to him a nascent supremacy over all things that are passed, an ascendency to which futurity can evolve no hopeful rival.

It is *here* that the pre-eminently divine gifts, vouchsafed to the AMERICAN PEOPLE by God *through Nature*, speak out and enforce from every heart a pious prayer of thanksgiving.

Here are united, in special magnitude, a variety of *new powers* and *fresh forces*. All of these combine to dictate, and are auspicious to, the structure of a political society of vast dimensions, upon the highest level attainable by energetic intelligence,—order and mental culture.

Eminent among these gifts is THERMAL SCIENCE.

If a navigator, in the mid-ocean and beneath the equator, shall ascend *vertically* into the atmosphere, as in a balloon, he will experience a fall of *one degree* of annual *mean* heat, as evidenced by the thermometer, at the altitude of 259 feet.

At or about an altitude of 20,000 feet, he will find the temperature of perpetual *zero*, where animal life and vegetation cease.

If he shall then weigh anchor and sail along a *meridian* line to the north pole, it will be necessary to traverse *a full degree of latitude*, 69½ miles, to experience along the sea-surface the same reduction of heat as has been encountered at 259 feet of *vertical* altitude.

We will learn from these facts the special combinations of climatic changes peculiar to and peculiarly favorable to NORTH AMERICA.

One who travels by a *meridian* line along the *concave* of the *great calcareous plain*, from Cuba to the Arctic Sea, crosses in regular succession the sugar belt, the cotton belt, the belt of Indian corn, hemp, tobacco, cattle, and swine, the wheat belt, oats, rye, roots, the grasses, and barley. At length, the perpetual Arctic frosts stop all vegetation, all culture, and consequently all habitation. Such are the palpable changes ascribable to

latitude, upon the continental area of small altitude above the sea, and within the *maritime* climates.

If the same traveller, facing to the left at the 40th degree of latitude, adhering to this line, climbs the gradual ascent of *the Great Plains*, surmounts the SNOWY NORTHERN ANDES, and reaches the Pacific Ocean, he encounters a similar succession of belts of vegetation and animal life, greatly compressed in arrangement, and ascribable to increasing *vertical* altitude.

THERMAL SCIENCE, assisted by its handmaid *meteorology*, explains for us the *atmospheres* which successively envelop the globe of the earth outside, handles them, and fixes them without obscurity.

The globe is closely enveloped by a shell of water, as the pulp of an orange by its rind, through which the continents and islands elevate and protrude themselves. This is the AQUEOUS *atmosphere*. Visible to the eye, dense and viscid, the range of its elasticity is measured by the surface undulations, by the disturbances caused by winds and cyclones, and by the rise and fall of the tides against its shores.

Enveloping this, and *external* to it, is the AERIAL *atmosphere*. This is invisible to the eye, and highly elastic. Into it ascend the vapors exhaled from the surface of the sea and the land. These vapors, variously condensed, float through this atmosphere in the form of clouds, and thus reveal themselves to vision.

At an altitude of 4000 feet this AERIAL atmosphere terminates, being as the *second* rind of an orange enveloping and external to the *first*. It ceases *here* as absolutely as does the *aqueous* atmosphere under our feet.

External to the *aerial*, and similarly enveloping it, is the ETHEREAL *atmosphere*. This has the position and similitude of a third rind to an orange. Here the region of space is approached, where animal life, vegetation, and clouds cease to exist.

Physical geography defines those portions of the earth's surface within the *aerial* atmosphere, to possess a MARITIME climate; those portions within the *ethereal* atmosphere to possess a CONTINENTAL climate.

It is in the neighborhood of the 102d meridian, the eastern boundary of Colorado, where the altitude of 4000 feet is attained and the region of the *continental* climate is approached and entered. It is clear, then, that the whole prodigious system of the NORTH AMERICAN ANDES is within the *ethereal* atmosphere, and in the region of the CONTINENTAL climate.

Upon the region of the *piedmont* which extends *eastward* from the abrupt base of the Cordilleras, are discernible counterpart phenomena as occur upon the shores of the oceans and illustrated by their tides.

The highly elastic *aerial* atmosphere is sometimes, by external pressure,

flooded up to the very base of the Cordillera. This causes the concave surface of the ethereal atmosphere, also highly elastic, to ascend. Alternately, the *aerial* atmosphere ebbs back to its normal level. Thus is experienced, within this margin, embracing the conjunction of these two atmospheres, an alternate play, as in depressed lands which are overflowed and then left dry by the tides of the sea.

We have seen that the *North American Andes* are longitudinal in their direction, receiving favorably the heating power of the sun on all their flanks and every summit. The outflanking *Cordilleras* exalt their supreme heads above the line of perpetual frost. They winnow from the air all the vapors of the *maritime* world, and totally exclude their entrance within, on to the *Plateau*. Carbonic acid, hydrogen, nitrogen, are left below. Pungent, tonic, health- and life-bestowing oxygen remains to possess unadulterated and supreme dominion.

These favorable modifications of the *thermal* laws, acting *locally*, but over a stupendous area, give and combine warmth, dryness, a diminution of atmospheric pressure, a sun never clouded, serenity, and profuse arborescence and vegetation.

These influences are expanded up and down the *protected* Plateau: they overleap the narrow limits which elsewhere restrict the *isothermal zodiac:* they push the favorable conditions of the isothermal AXIS, to the north and to the south, up and down the Plateau, in both directions, to its extreme limits.

A sublime architecture acts through the vision. It exalts the heart and refines the taste of man. *Nature* is graceful, winning, and uninterruptedly friendly in every feature. Now the *vertical thermal* belts, side by side with the *horizontal* belts, compressed as a rainbow, are joined, and the two thermal scales blend their areas. They expand from one another, augmenting manifold the auspicious thermal varieties.

The stupendous mountain mass is elevated above the *maritime* and into the *ethereal* atmosphere. The battlements and summits present consecutively every front to the morning, to the meridian, and to the descending sun. The fire of the sun perpetually pours down his heat through the pungent air and unclouded canopy. This warmth condenses and exerts a favorable power round the year.

The area of most auspicious isothermal *warmth* is here expanded to the most immense dimensions and comprehensive variety. The surface is most favorably undulating. It is burnished with dissolving colors of the richest hues, and checkered with bewitching scenery.

The latitude is most favorable. The *longitude* is equally so. From this centre all the *grand rivers* radiate and descend uninterruptedly to all

the circumfluent oceans, everywhere concealed from sight beyond the encircling horizon.

All *inhabitable* altitudes succeed one another. They are gracefully blended and combined, as are the streaks of the rainbow. They immediately touch and rest upon one another. All altitudes are equally open for individual election.

This splendid structure and these prolific gifts are prophetic of a society inspired by mental energies of the highest standard and reinforced with impregnable power.

Here is discernible a trenchant contrast and deficiency in architectural economy. The European basins of the Mediterranean, the Baltic, the Pontic and Propontic have their calcareous bottoms buried, as in a tomb, beneath a sterile salt expanse. The intervening and rugged mountain lands only are left dry and inhabitable. This *latitudinal* expanse of sea, prolonged from Gibraltar to the Caucasus, incorrigibly isolated Europe from tropical Africa. This latter and neighboring continent has remained thus cut off, unused and undeveloped.

The people of the *northern* shore circumnavigate the globe to bring their groceries from the *Oriental* and *Western* Indies.

The *thermal laws* have here operated since the birth of time with unrelenting hostility, and superadded their blasting power to the unfriendly anatomy of the land and water.

In America, the prolonged *Plateau* surrounds and envelops the Mexican and Caribbean Seas. It carries the isothermal warmth and railways into the very nest of tropical productions. Thus the widest extremes are propitiously combined in a single neighborhood and united in one domestic home.

A special feature of this vast expanse within the *continental* climate is *pastoral agriculture*. Here the dryness and the unfailing sunshine curl the grasses into hay upon the ground where they grow. Preserved thus from decay, they furnish *winter* food, dispensing with the labor of harvest.

For *arable culture*, which has the highest grade of excellence and the widest range in quality, variety, and quantity, a corresponding economy is discernible in the universal necessity and use of artificial irrigation. The waters, coming from the snows, descend from above. *Labor* is not harassed by mud or by the hostile interruptions incidental to a fickle canopy. The sloping surfaces of land and water are neighborly and friendly to each other: this relation is continuous from the highest altitude to the seas.

All civilized populations have been intensely sensitive to *climatic* power, and instinctively oblique from excessive heat, cold, and damp.

The *latitudinal* backbone which bisects the Asiatic-European continent

from *east to west* receives the heating power of the sun, *and all of it*, upon its *southern* slope *alone*.

The *northern* slope, assigned to perpetual shade, receives as perpetually, without mitigation, the hyperborean rigor. The animating sun-heat, which is concentrated and condensed without the *concave* amphitheatre of North America, is here scattered and dissipated by a hostile *convex* roof. The omnipotent power of the benignant *thermal forces* is here universally negative, chilling, and hostile.

The mental forces and speculations of the *antique world* have been exclusively restricted to the contemplation of *pigmy* states. The anarchy of force has uniformly accompanied a convex geography of incoherent fragments. A sour, saturated soil; a dismal atmosphere exclusively *maritime;* a febrile *thermal* condition; monotony: all these have incubated over society universally and with unrelieved perpetuity. Society, dwarfed by the absence of any generous inspirations, has been sluggish and vegetated without elasticity.

Political and social science have found it impossible to have birth. To the American, experiences sought for and derived from the *antique world* are deceptive, sombre, and discouraging. War, monarchy, and submissive multitudes only are seen. *Civil liberty* has never permanently established itself. Societies have grown to be polished and enervated without emerging from semi-savage barbarism.

There is discernible in the temper of the generation of our statesmen who are now passed away, and who have seen our country saddened by civil strife, an idolatrous adulation of Europe; a proclivity to view with trepidation and to dwarf the aspiring genius and elastic energies of the *pioneer* people. To bridle the *continental* mission of the North American people and curb it to the sway and dimensions of the *Atlantic shore*, to restrict it to this *geographical selvage*, has not ceased to be a cherished policy with them.

The grand *North American Andes*, and the *now to us domestic* Pacific Ocean, have received only faint appreciation and acknowledgment; postponed in development from insufficient and stingy legislation or by *unfriendly* silence.

THERMAL SCIENCE, coming to be rightly understood and to be accepted, offers itself to correct the general judgment and to rectify and reinforce the conquering forces of *sound progress*. The grand *pioneer army*, having solidly established its lodgments around the whole encircling rim of our national territory, gathers its columns faces inwards, assumes a *concentric* movement, departs from the seas and from river-lines to converge on the centre. These columns unite by their flanks. They per-

potually increase in numbers, pressure, and activity. The *instinct* of gravitation, enlightened by THERMAL SCIENCE, gains velocity, steadiness, and victory without tumult.

The traces of geographical *anarchy* abate rapidly. They are about finally to be extinguished forever, by the ripening movement which will soon re-annex to us the area of the Mexican Republic, on the one flank; the whole area of the Canadas, on the other flank.

All that is necessary for this achievement, long in preparation, approaches its accomplishment. To fold to us these *domestic* wings, too long stretched out and segregated from us, will fill out to the ocean bounds, and occupy through all its solid dimensions, as well the stupendous architecture of our country as the perfectly graceful anatomy of its compact expanse.

It is the discovery of inexhaustible precious metals within a propitious *thermal* zone that gives perpetual success to the GOLD FEVER. This defines itself as "the indefinite supply of *sound* money for the people, by their own individual and voluntary labor." This is the discovery of the profound want and necessity of human society. It is the final and exhausting solution of the heretofore enigmatical question, "What is the function and what is the power of *finance* in human organized societies?" The FINANCIAL PROBLEM, essential to the healthy growth of every other problem in the scheme of civilization, is revealed, identified, and solved.

The *land* area of the Territory of Colorado is 75,000,000 of acres. To reduce this area to use and private possession requires $100,000,000 to be paid by the *people* to the Federal government. This immense sum is wrung from the meritorious and self-sacrificing labor of the pioneers—it is all carried forth and disbursed elsewhere. This is a *gabel* tax; unconstitutional, accumulative over all other taxes, crippling, and atrocious. If this sum may be retained among those who pay it, the gain will be to them $200,000,000. It may be retained to reinforce and enhance the creative power of the pioneer army.

If the State of Colorado, and other similar Territories, be sanctioned and self-government established, this may with ease be achieved. Let the system of land surveys and the price be untouched, but the payments enter the State treasury. The disbursements shall be restricted to the construction of a complete net-work of railways; to universal and perpetual education; and to fit the lands for the production of food, by canals of irrigation and drainage.

Within the State integrity will be sternly enforced. Fiber generous public benefits will be paid for and constructed by the people themselves.

They will be perpetually owned by, and used and guarded for and under the will and supervision of, the people.

Thus *universal* railways come into existence. The lands are *universally* cultivated. Transportation and travel *fuse* nations and populations. Civilization and *civic* order and *civic* discipline, FOR ALL, becomes possible and erects itself. It maintains universal authority and power. *Labor equitably rules itself, and the political and financial robber is permanently dethroned.*

This public policy will combine *idle* populations and *idle* lands, to mutually employ each other and to fire up the stagnant torpidity of both. It may be transplanted into Siberia and into all the continents and islands of the seas.

Military organization, essentially monarchical and which but partially embraces or employs a *whole* population, will go out of existence.

Industrial organization, which employs ALL LABOR, uniformly and continually, will displace and supersede it.

Behold, then, in the novel and auspicious THERMAL splendor of *North America*, united with its PHYSICAL CONFIGURATION and POSITION, the birth of *new* and overwhelming powers and *fresh* forces!

The existence of these, or their combination, has heretofore been impossible or unthought of in human experience. These *fresh* powers and forces suddenly unveil themselves, ferment and modify all societies and reverse their fronts. They dictate a *cosmopolitan* comity and assume an overwhelming sway.

By the Land System, the *idle* lands throughout the world are measured off in the *small*. They are made attainable for starving multitudes and *oppressed* laborers. An avarice for the possession and conversion of them to use in this form is *kindled* throughout all populations.

The Gold Fever is the indefinite production of *sound money* by the *individual* and *voluntary* labor of the people. This is *free money;* the multiplication of money capitals in the *small*, independent and *individual* in form, abundant in quantity, and prospectively indefinite.

Government credit, rightly understood, reduced to discipline and amplified universally, becomes available to combine and utilize these popular elements.

The *California Gold Fever* had its invention and birth in 1848. It has in a decade of years transplanted itself to Australasia and to Pike's Peak. It has permeated mankind as an electric fluid, to animate, to regenerate, to exalt humanity. It permanently fortifies PROGRESS with impregnable power and activity.

Its inspiring democratic genius has, within a quarter of a century,

covered the continents with railways and with telegraphs. It economises navigation by its reduction to steam ferries upon the oceans and telegraphic cables upon its profound bed.

Immortal railways extend themselves, to become a universal system, over all the land of the globe! The dwarfing power, the waste, the piratical temper, the monopoly of sea navigation is at an end. Its despotism and arrogance over the *rural* populations is absorbed and reversed.

We have seen the energies of the American people, bringing into line and into use *these new powers*, span their continent with the *Pacific Railway*, as with the rapidity of lightning from a mountain cloud.

Availing themselves of the favorable *thermal* warmth upon the *Plateau*, and upon the immediate sea-coasts, bathed by the Asiatic Gulf Stream (the Suro-Siwo), they will continue to expand their work to Behring's Straits, where all the continents are united.

This will prolong itself along the similarly propitious *thermal* selvage of the Oriental Russian coasts, into China.

To prolong this unbroken line of COSMOPOLITAN RAILWAYS along the *latitudinal Plateau* of Asia, to Moscow, to Berlin, to Paris, to Madrid, and to London, will not have long delay.

The less significant and isolated continents of the *Southern* Hemisphere—South America, Africa, and Australasia—will be reached by *feeders* through Panama, Suez, and the chain of *Oriental* peninsulas and islands. The whole area and all the populations of the globe will be thus united and fused by *land* travel and by *railways*.

Behold what a short quarter of a century in time has sufficed to originate and accomplish, in an age awakened and armed with the subtle democratic power of free and abundant gold!

What celerity of motion! What vivacity of progress! What victorious, what triumphant, what sublime energies! What works of magnitude! How benignant to mankind! How prophetic of the future! How charitable to universal humanity!

CHAPTER X.

POWER.

POWER is strength. "*The practice of virtue and energy always in exercise*" is oracular REPUBLICAN POWER.

Original forces, strong, varied, and numerous, characterize the American continent and people. These forces, combined by an exact discipline, free from mutiny, and handled with ever-vigilant valor, rectitude, and wisdom, invest them with a supreme conquering *power*.

On page 44 has been said: "*To command the gold and silver production of the world, and to combine this with an intelligent policy, is to rule the world.* The present ability of the American people to do this will become manifest so soon as the geography of the *North American Continent* shall become correctly understood by them, and its economical development be made a systematic policy.

"A few standard facts in physical geography and geology being currently grafted in to guide the popular mind, the ease with which the *people of America* will rise to the pinnacle of power and empire, *and the necessity incumbent upon them to do so*, become both simple and luminous of comprehension."

The American people have established for themselves (*by right and not by concession*) universal *male* suffrage, universal education, universal religion, universal labor, universal *gold*. They have also one universal language.

These stupendous forces of civilization *hourly* expand. They gain elasticity, co-operation, perpetuity. Peace and progress accompany them.

The *pioneer army of the people* advances with miraculous celerity, order, and self-discipline. Incredible conquests are achieved. In number, *two millions strong*, self-governed, self-fed, self-armed, self-commanded, it plants empire in the wilderness by a system of colonization at once perfect and inscrutable. It moves with the steadiness, weight, and forward pressure of an ocean.

One thousand each day, three hundred thousand annually, of the selected and able-bodied laborers of the external continents, land upon our coasts. These displace our own people, who perpetually move up to recruit and reinforce the *pioneers*.

The *pioneer army* is not deficient in any arm, or in any kind of equipment. The construction of railways accompanies and keeps up even with its front. Each *year* witnesses the foundation of a new State; each month beholds the location of a new city *site*. The work of organization and of building is commenced and proceeds undisturbed.

Neither blunders, nor cessation of motion, nor tumult, are ever seen. Society, in all its elements, corrects, transplants, and expands itself. It is neither broken asunder, nor detached.

Its purity is reinvigorated and sustained; its lands and atmosphere are fresh. Household ties and social and political bonds are enlarged, but remain undisturbed.

All movements result in an intensely accumulating volume and consolidated strength. The temper and discipline of action and of moderation are unruffled and unrelaxed.

To the American who visits the British Isles for curiosity and observation, an astonishing spectacle is revealed. He encounters, in severe disproportion, glittering wealth contrasted by appalling poverty and squalor.

These small islands, begirt and isolated by the seas, contain *twenty-three* millions of people, confined like bees within a hive, and similarly in motion. Like bees, they depart from home, swarm over the world and bring back its *honey*.

To reach INDIA and return, they four times cross the equatorial heats, twice double the Antarctic capes, and circumnavigate the globe. At this extreme distance, they hold under military and industrial *pressure two hundred millions* of laboring people.

To this is due their dictatorial control over the *Oriental* nations, over the *Oriental* labor and commerce, and over the resulting transportation upon all the oceans.

Within the British Isles, the *machine force, chiefly steam, is equal to the labor of six hundred millions of men, working ten hours each day, round the year.* Neither meat, cereals, nor forage are consumed, but only fuel!

Within the *home* area, this stupendous *machine force* is systematized and brought into co-operation by a net-work of railways. It is prolonged over all the oceans, and penetrates to every extremity of the land, by a marine of steam and sailing ships.

It is thus explained why and how *British* POWER consumes the wealth, the liberties, and the labor of *India*; why it has lately menaced the absorption of still more populous China. How activity is multiplied by *machine force* may be thus illustrated: In 1832, the aggregate passengers

moved in the city of New York was 170,500. In 1872, the aggregate has been *sixty-one millions.* In Philadelphia, *thirty-seven millions!*

But in the British Isles is an area of land restricted to *pigmy dimensions;* insufficient bread; no production of groceries; no raw material of cotton; no ores, except tin and iron; exhausted fuel; a population paralyzed by want; unable to labor; no room; no elasticity; no democratic vigor possible. Railways are incapable of extension beyond her shores. Sterile seas isolate her from all her colonies, and from what employs the labor of, and feeds, her home population.

This prosperity and this power is *artificial.* It rests on a variety of foundations alarmingly fickle and perpetually shifting. It is maintained by exhausting waste of its own forces, especially *human* labor.

Splendid as is the British Empire, *America* hastens to ascend over and to absorb it.

It is the object of these pages to bring into relief and to gain recognition for the *facts and forces* of our *domestic* America in geography, in society, and in politics. To inflame the popular taste for their appreciation; their unanimous use; their exaltation. To make clear the magnitude, the beauty, the grace, the fitness for perpetual unity and concord, of the sublime architecture, and of the perfect anatomy of our CONTINENTAL HOME!

It is not invidious to glance the eye over the *pigmy* states that checker Asia and Europe. Each one is stagnant, devoid of inherent elasticity, and denied any margin of expansion. *Expatriation*, or the slaughter of war, alone fans hope.

To attain the level of polished barbarism in society, military despotism in politics, *and then decay;* exhaust the vicious rotation of their revolutions, their hopes, and their fortunes. The possibilities of *progress* are negative, stingy, and illusory.

For us, wanton wars of slaughter, arson, and rapine have ceased. *Industrial energy* assumes supreme sway, and—prescribing organization and discipline—acquires the ascendency to forestall and to dethrone the anarchy and atrocious waste of wanton war.

Who can behold, without intense chagrin, the obscene tragedies of *two decades*, enacted around Sebastopol, around Richmond, and around Paris? Cities destroyed; states and their populations incarnadined in their own blood; the gates of Janus thrown wide open; those of mercy shut upon the world!

In contrast are arrayed the benignant works of the *pioneer army of the people.* An empire of fresh and free States *created* and expanded from the Mississippi to the Pacific sea; cities built; works of unparalleled gran-

deur and utility erected and completed; the *Oriental* population summoned and *voluntarily* accepting fraternal affiliation; a resounding and elastic commerce spread broadcast over the Pacific sea, *heretofore silent*. Mankind is enriched with gold, and is everywhere reinforced with wealth, credit, hope, and resolution.

Such are the charitable and resplendent conquests won by the aggregated forces and energies of a *continental people, all* individually free, independent, and self-governed. Such are the incalculable fortunes which now gestate upon the arena of the American continent, secure in healthful unity, magnitude, and perpetuity!

POWER and universal PROGRESS come united and together into the possession and guardianship of the American people. They are rectified, co-operate and conquer. Humanity throughout the world, cheered by example and its reflection, unfolds the wings of progress without trepidation.

It bounds onward fearless, intrepid, and successful. It pushes out of sight every restricting horizon. It revels and exults over an unlimited arena, to which wise charity, benevolence, and courage refuse to assign a term!

Machine forces emanate from *free* intellect. They multiply and reflect back to it *aggressive* arms and strength. They infuse themselves and permeate everywhere, as an all-pervading *magnetic* essence.

They unify and fuse mankind. They multiply the activity of all desirable relations, infinitely in volume and in strength. They exalt civilization. They generate elasticity, ambition, fire. They give lustre to the reinvigorated LABOR AND INDUSTRY of the world, with unlimited triumphs and conquests.

The odious scission of men into *aristocrats* and *plebeians* disappears. *Dependence* becomes distasteful; it ceases to be *voluntarily* practiced or submitted to. *Democratic society* establishes itself upon the level of universal *patrician* equality and *patrician* rights. These are unanimously accepted and maintained in practice.

Famines, and the terror of famines, have ceased. Epidemic diseases are controlled, and their malignity extirpated. Charitable inventions multiply, because *multitudinous capitals of money in the small* are enabled to purchase and enjoy them.

Machine forces infinite in number, application, and capacity appear. The reaper, the sewing-machine, locomotion by steam, on land and water, cotton goods, give luxury, taste, and merited indulgence to the *democratic multitude*. Gas, fuel, and machinery economize warmth, light, and water; they spread unstinted enjoyment of them everywhere. Multiplied millions are provoked to travel.

What alacrity, what elasticity, what vigor! What stupendous new and fresh forces have been unveiled! What inspired, what victorious, what conquering energies!

How generously is *activity in each subtle atom of society* reinforced! What celerity of motion! What vivacity of progress! How charitable and auspicious are these gifts and discoveries to all humanity!

Strifes that have deformed society disappear. *Rural* intelligence and moderation resist successfully *urban* rapacity. Asperities are modified and *conventionalities* are, by mutual consent, arranged and accepted. With what ease do order and discipline assert themselves!

POWER then assumes new features, enhanced dimensions, and increased sway. It is minute, active, and prompt to protect right and to restrain the vicious. The American people INVEST THEMSELVES with the creation and administration of POWER. They use it without fear and without limit, and THEMSELVES control and moderate its exercise.

They refuse *tyrants*, and with the same sternness refuse *slaves*.

They found and perfect *the policy of Peace*, because Peace is more valuable and more *enduring* than the policy of War.

The people and the activities of the *continental* and of the *maritime* climates, blended together, mutually reflect through and favorably stimulate and modify one another.

Let us recall again the sublime AMPHITHEATRE occupied by the American people, impregnably set in the midst of all the populations of the world, and environed all around by them.

The compact *insular* form and *concave* structure of the continent; the climatology, tenfold auspicious; the graceful unity of the entire area, and its varied but uniform usefulness and fertility; the intense economy in quality, in magnitude, and in proximity of contact: these are all the reverse of what is elsewhere found.

It is possible, from this position, *mentally*, to look out over the globe of the earth, as a bright school-boy handles his cricket-ball!

Here is a capacity to produce and to supply the *raw material*, in every subtle variety, to employ the *labor* of all mankind, food to feed the world. The omnipotent and diversified POWER OF DEMOCRATIC FREEDOM, erected, codified, and perpetuated by ITSELF, is here first seen in human experience.

Metaphysical politics and its rhapsodies are rejected by the American people. They carefully hive the results of *physical science* and of *inductive reason*. Fortified by discovered facts of experiment and example, these are unanimously cherished, relied on, and adhered to by them. Upon this *basis*, they successfully progress in the construction of empire.

The retrospect over Europe is, *for us*, deceptive and treacherous. Insight into the interior system of *continental China* gradually reveals itself to us, and is understood.

In EUROPE, *military* organization and force have always successfully held sway, and will continue to dominate and destroy.

In CHINA, *civic* organization, and a discipline of the *national intellect* by universal education, yield the grandest political results. Fifty centuries of accumulating growth, and four hundred and fifty millions of homogeneous population,—one-third of the human race,—attest the benign power of universal education, and the systematic utilization of ascertained merit.

The *basis* of the Chinese is a fickle and vague LITERATURE, monotonous and sterile. *Physical science* has not been discovered by them, nor reached in practice.

Intermediate between these ancient and imperfect societies, *American* society is fresh, pliant, and ductile. It commences its career upon a foundation of *truths*, discovered and accepted from *nature*. The hope of perpetuity is strong. Abundant precedents admonish what to accept and adopt—what to reject.

EQUILIBRIUM among details, which is the essence of order among the forces of the *universe of nature*, makes itself by degrees known to us, and is adopted in the self-adjustment of the department of *human organization*.

Examples of what has been accomplished by LIBERTY, under the spasmodic and imperfect opportunities (crippled by hostile geography and *pigmy* power) in the republics of antiquity, in China, and in modern England, predict the crowning mercy of success to the *American people*.

The pressure and drift sometimes vouchsafed to humanity by Almighty power, is with us and is favorable to us.

CENTRALIZATION, rightly understood and cleared of all *sinister* interpretation, will secure and protect society from mutiny and waste.

POWER, *benignant* POWER, inherent in, possessed, and administered by the *people*, will by cautious progression discover and adjust the *equilibrium* of forces.

The empire of our *continental* geography; the empire of our *free* people; the empires of our political, of our social, and of our religious sentiment; the empire of our industries; for all of these will be found mutual concord, self-sustained: unlimited expansion: perpetual buoyancy, and perpetual life!

Thus will be corrected and closed the sanguinary gestations of the chaotic world behind us, from which we are born, and of which we are the healthy and gigantic offspring.

CHAPTER XI.

THE NORTH AMERICAN MISSION.

In the current of ages, mysteries become *sciences*. Vague speculation, long fermenting, and perplexed by obscure doubts, produces facts. These crystallize into precious truth. From the blind conjectures of Astrology has dawned the *science* of *Astronomy;* from Alchemy has come Chemistry.

The American people now reach and cross the threshold, where they emerge from the twilight of the futile world of thought behind. They enter into the full and perpetual light and promise of *political and social science.*

A glance of the eye, thrown across the *North American continent*, accompanying the course of the sun from ocean to ocean, reveals an extraordinary landscape. It displays immense forces, characterized by order, activity, and progress.

The structure of nature—the marching of a vast population—the creations of the people, individually and combined—are seen in infinite varieties of form and gigantic dimensions. Farms, cities, States, public works, define themselves, flash into form, accumulate, combine, and harmonize.

The *pioneer army* perpetually advances, reconnoitres, strikes to the front. Empire plants itself upon the trails. Agitation, creative energy, industry, throb throughout and animate this crowding deluge. Conclusive occupation, solidity, permanence, and a stern discipline, attend every movement and illustrate every camp.

The American realizes that "Progress is God." He clearly recognizes and accepts the *continental* mission of his country and his people. His faith is impregnably fortified by this vision of power, unity, and forward motion.

As essential to all clearness of illustration, familiarity with the *geography* and *physical structure* of the American continent seems to me indispensable.

Assuming the division of the Northern and Southern Continents to be at *Panama*, from the same point depart the northern and southern systems of the Andes. These two systems of mountains assume special forms of

structure, each one corresponding with the anatomy of its own continent. They form the backbone of the skeletons upon which the continents are severally constructed.

The *Southern Andes*, rising out of the ocean at Cape Horn, traverse without interruption from south to north the whole length of the continent. They form a continuous escarpment not remote from the shore of the Pacific Ocean, and curving with its indentations.

Approaching the equator, an expansion to the *east* forms the Peruvian Plateau, and is prolonged into the triangle of Brazil. The prolongations in this direction extend to the Atlantic, and separate asunder the radiant basins of the La Plata, Amazon, Orinoco, and Magdalena Rivers. The shape of the continent, enveloped all round by the sea, and that of the mountain system, are reciprocally fitted to each other.

The *Northern Andes*, departing from *Panama* and contracted by the seas, traverse Central America to Tehuantepec. From hence, an immense expansion in width of the Northern Continent is accompanied by a corresponding increase in the magnitude and altitude of the mountain system.

An immense *Plateau*, flanked by the Cordilleras, expands from sea to sea. On the *east* the Cordillera of the Rocky Mountains rises flush from the shores of the Mexican Gulf. On the *west* the Cordillera Nevada rises from the shores of the ocean and the California Gulf.

The Sierra Nevada, the *Western Cordillera*, like the Southern Andes, erects itself continuously from the Pacific Ocean, whose indented shore it accompanies to Behring Strait.

The *Eastern Cordillera* obliques from the Mexican Gulf, where the latter is curved to the east by the immense increasing amplitude of the Northern Continent. This Cordillera is flanked henceforward along its base by the Mississippi basin, whose indented shore and plain it continuously overlooks.

In the neighborhood of the 40th degree of latitude, the *maximum* width of the Northern Continent is reached. This continent differs from the Southern in the intense magnitude of its anatomy. Its whole area, alike with each of its composing details, is thus magnified. The radiant basins of the Mississippi, the St. Lawrence, the Hudson's Bay and Athabasca, depart from it. The Northern Andes *here* attain a breadth of 1200 miles, and assume their most stupendous dimensions. They include many snowy sierras and a multitude of peaks.

From this *latitude* of greatest expansion, the mountain system contracts towards the north: the Cordilleras converge at Behring's Strait as at Tehuantepec: they are again condensed into one. The system of the

Northern Andes thus occupies and elevates itself above one-third of the area of North America.

Defined by itself, it is a prolonged diamond-shaped parallelogram, faced on all points by the Cordilleras, *longitudinal* in position, 6000 miles in length, and 1200 in width. It has a direction from south-southeast to north-northwest. Similitude in *anatomical* structure therefore perfectly identifies the two continents.

This similitude of profile holds equally between the two mountain systems. The *Southern Andes* exhibit in their course through Patagonia and Chili two summit ridges parallel and in close proximity. These diverge with the increasing width of the continent, and enclose the Peruvian Plateau and its extensions into Bolivia and the elevated plains of New Granada. The same peculiarity is seen in narrow Central America and the extension to the north.

If, then, the imperfectly developed anatomy of a youth of five years be arranged side by side with that of his maturity at the age of thirty-five years, the relative resemblances and contrasts of South and North America in their whole anatomy will be familiarly illustrated.

This simplicity of structure pervading the whole system, being held in the mind, it is manifest that the *Cordillera of the Rocky Mountains* is the stupendous dorsal foundation upon whose prodigious mass and solidity all the radiant limbs rest. From this, including the Alleghanies, they all radiate or depend as outliers. Into this they all ultimately group and condense themselves.

This stupendous *longitudinal* Cordillera segregates the physical globe into two hemispheres. These two hemispheres present the basin of the *Atlantic* towards the rising sun, that of the *Pacific* towards the setting sun. Here is the supreme meridian altitude up to which the whole globe slopes!

To this crowning ridge human society, emerging from the two ocean basins, is at present climbing; the two halves front face to face; they march to meet—to unite and harmonize over this summit!

We have seen that the American continent expands to its most complete dimensions and amplitude where it is traversed by the *fortieth degree* of north latitude. A symmetrical harmony, perfect in every detail, here characterizes all the departments of nature—an ample depth of *seaboard* on either ocean—the supreme expanse of the *Mississippi Basin*—its great confluent rivers—the grand width of the mountain PLATEAU, which here protrudes its extreme salient corners to the east and to the west—to this focal region it rises in altitude, mass, and dimensions, from every point of the continental horizon. It here displays over its area, and in the outflanking Cordilleras, a hundred snow-crowned peaks.

Here arise in cloud-compelling majesty the continental pillars, Long's Peak and Pike's Peak, 150 miles apart; through the intermediate space traverses the *fortieth degree* of north latitude. From their summits depart the waters to seek the Asiatic and European seas. Hither the continental slopes mounting upwards from all the oceans converge and culminate: from hence all the descending waters radiate.

Here, in the midst of the grand works of nature—multitudinous in variety, sublime in vastness, in order, and in beauty—are assembled all the natural gifts which human society needs, or may demand for the most complete development. Here the supreme Cordillera envelops in its folds a group of gigantic valleys known as the "*System of the Parcs of Colorado.*"

Of all the gems displayed here and there in the physical varieties which checker the earth's surface, this group is the most gigantic in dimensions; the most transcendently excellent in *locality;* the most wonderful, curious, and attractive.

THE PARCS BESTRIDE THE LINE OF WAY-TRAVEL OF MANKIND AT A POINT OF PARAMOUNT CONTROL.

Here meet and mingle mountains, plains, valleys, rivers, in confluent affluence, in immensity of proportions, order, and graceful forms. The pungent and tonic atmosphere preserves the highest standard of moderation and excellence round the year. The oceans are not far off, and are easily accessible over uniformly descending slopes.

Pastoral agriculture, mining, arable agriculture, manufactures, commerce—each of these has the essential elements of a conquering power; —they are here all blended, each self-supporting, and each stimulating all the rest. The affluence of nature and the prolific generosity of her proportions are miraculous.

The PARCS occupy, longitudinally, the centre of *Colorado*, passing through and through, from south to north. The whole area of Colorado, 107,000 square miles (70,000,000 acres), is so folded around them as to constitute their frame and envelope, incapable of being segregated from them.

These PARCS, thus mounting from south to north, one upon the other, are of very nearly equal area. They are the San Luis, the South, the Middle, and the North Parcs.

The elliptical area of the San Luis Parc is 18,000 square miles (11,520,000 acres). Their similarity one to another, as members of one family, is perfect. The internal details of structure, form, and scenery are infinitely variegated. Each one, examined by itself, seems to surpass the rest in eminent convenience and beauty. The climatic geniality of

temperature and salubrity have not a single blemish. They perpetually prompt and stimulate mental energy and physical activity.

I am struggling to narrate faithfully the homespun facts of nature: to exaggerate is far from my intention. The splendid magnitude of the architecture—the faultless proportions everywhere discernible—the graceful grouping of propitious and benignant elements—the far-searching vision and resplendent panorama—all these unite to reveal to the judgment that omnipotent nature here culminates her work, and has planted the life-giving heart of the terrestrial scheme.

To illustrate this wonderful configuration, as with a model of *diminutive* size, the Alps of Europe present an example. A spectator, from the supreme summit of the Helvetian Peaks, beholds radiating from his feet the diverging channels of the Po, the Rhine, the Rhone, and the Danube. As they depart, the small lake basins or *parcs* of Geneva and Constance gather the drippings of the glaciers; and the river basins open out to share between them the widening expanse of the continent.

The waters of the Mediterranean Sea are visible towards Genoa—those of the Adriatic towards Venice. Biscay, and the German and Pontic Seas, are more remote. Within a horizon whose diameter is 300 miles, are, at present, congregated 45,000,000 of population, who occupy the river basins and the rugged ground.

Since the wars of Julius Cæsar, the progress of the people within this area has been sluggish and painful; civilization yet continues *crepuscular*, and its languid fire is maintained with difficulty. A hostile climatology, forever incubating upon nature and man, saddens labor, chills its elasticity, and stagnates hope. The evil passions of force and despair rule; the energies of labor and virtue are crushed out by a perpetually corroding pressure.

The incessant vapors from the neighboring seas, brought in by every wind, bathe perpetually the mountain altitudes: these are thus encased to their very roots with unfathomable depths of ice, which never melts. The soil of Europe, saturated by chilling fogs, and veiled by them and by forests from the sun, is cold and sour—the atmosphere febrile and inimical to life.

Seamed with mountain bones from *west to east*—pinched in and trenched upon around its margin by the salt wastes of Biscay and the German Ocean—by the Baltic, the Mediterranean, and the Pontic Seas—Europe is a promontory pendent from the solid dimensions of Asia, having only one-sixth of its area.

Its *convex* surface and ragged shores—its humid atmosphere—its large

area, expanding from an edge of the temperate into the *frigid* zone of warmth:—these dwarf as well the industry as the mind of man.

Asia and Europe present a continuous snow-crested wall, *east and west*, from China to Gibraltar, rising abruptly and not far removed from the southern seas. From this *convex* crest, to the north, descends as continuously a hyperborean slope, withdrawn from the sun, and resting only within the oblique and chilling shadow of his rays.

In contrast, the *longitudinal* direction and double structure of the North American Andes opens them to the directly searching and omnipotent power of the meridian sun: their outward flanks receive the tempering glories of his morning and his evening beams.

These old continents are, in their abstract form of structure, convex as the camel's back.

The Cordilleras of North America and their outliers, from north to south in direction and ranging round near the oceans, give to the continent a *vast and splendid concave structure*. This incessantly receives and absorbs the direct solar rays.

North America is a sublime *amphitheatre*, of gorgeous fertility and transcendent proportions. The vast surface of concentric basins is uniformly *calcareous*—it is scarcely less in expanse of area, or more undulating, than the oceans. This comprehensive area, mellow and salubrious, is fattened everywhere, and refreshed by the soils abraded from the mountains. It may receive by immigration, and sustain without surfeit, the existing populations of the globe.

Cumulative with this is the auspicious structure of the longitudinal Sierras. Where Colorado embraces and arches over the extreme salient corner of the Cordillera, is found the stupendous culmination in bulk and altitude of the mountains, of the valleys, of the running waters, and of the climatology of the whole continent.

To this supreme *apex* the whole continent ascends, by easy gradations, from the trough of the Mississippi on the one hand, from the shores of the Pacific on the other hand. Here is the summit altitude of a stupendous cone of elevation, whose diameter has a foundation of 2000 miles.

Into the summit area of this truncated cone of elevation are mortised to a profound depth the valleys which make up the "*System of the Parcs.*" These collect and send forth the fresh waters, like the arterial blood gathered and distributed from the human heart.

From hence depart *ten* rivers: the North Platte, to the *north;* the South Platte, to the *northeast;* the Kansas, to the *east;* the Arkansas and Canadian, to the *southeast;* the Rio Bravo del Norte, *due south* into the Mexican Gulf; the San Juan, Eagle, and Grand Colorado Rivers, to

the *southwest*, into the Gulf of California; the Green River, to the *northwest*.

The North Platte descends, without deflection, to the direct north for 500 miles to receive the Sweetwater. From this point the water-channels of the Yellowstone, the Missouri, and the Saskatchewan form a continuous and easy gradation to *Hudson's Bay*. Passing by the Green and Snake Rivers, where their extreme sources intersect, a similar continuous gradation is found out to the *North Pacific*.

Thus, upon this *mountain summit of Colorado*, the ascending valleys converge as so many enormous wedges, ten in number, arranged with their points grouped in contact.

The passes over the Sierras, at the prolonged extremities of these valleys, re-entering thus upon one another, are numerous and easy. They complete the through lines of passage across the continent. These make a convergence here, from the two fronts of the continent, resembling the globes of an hour-glass communicating through the stem which unites them.

The miracle of these broadly expanded altitudes is their *climatology*. Altitude above the seas; latitude and longitude; seclusion from the seas; combine to perfect the moderation in temperature, the dryness, the salubrity, and the splendor of the atmosphere.

The light and fire of the sun rule the day and night, the seasons, the tides, the vegetation of nature, life and death upon the land and in the sea. *Isothermal science* thus explains how the mind of man, in harmony with the supreme order of nature, intuitively adjusts itself to the revolutions of the sun and is tempered by his heat.

The *northern* hemisphere of the globe has around it all the continents of the land, holding the diminished seas in the intervals between them. The races white in color inhabit and restrict themselves to a narrow belt or zodiac, girdling this hemisphere of the continents round and round.

This belt straddles *an axis of intensity* whose annual mean temperature is 52 degrees of Fahrenheit: it has thirty degrees of breadth, being fifteen degrees to the south and fifteen degrees to the north of the axis. Incorrectly delineated on the miniature globes, this *axis of intensity* would correspond with the 40th degree of north latitude, and the zone of temperate warmth will embrace the belt of the globe fenced within the 25th and 55th degrees.

But profound modifications of temperature are wrought by the alternating presence and special configurations of oceans and continents; by the power of atmospheric and of ocean currents; by the subtle forces of electricity, gravitation, and the mercurial gestations of nature.

This *axis of intensity* is, therefore, an undulating line. It arches towards the equator, where it traverses the depths of the continent. It arches towards the north pole over the expanses of the oceans. Within this isothermal belt, and restricted to it, the column of the human family, with whom abides the sacred and inspired fire of civilization, *accompanying the sun*, has marched from east to west, since the birth of time.

Upon this *axis of intensity* have been constructed the great primary cities, which have been from age to age the *foci* from which have *radiated* intellectual activity and power. *Inwards*, and converging upon this axis, have always pressed the periodical migratory and military movements of the human masses.

These, recoiling alike from northern cold and from southern heats, seek instinctively a temperate and congenial warmth.

Of this highly artificial and disciplined system of civilization we Americans form a part. It is transmitted from the very dawn of antiquity, and is inherited. History is the diary of its geographical progress, of its periods of brightness and obscurity, of its struggles and of its energies.

When society has attained its largest numerical strength, accomplishing the highest level of intelligence and the longest duration, it is defined to be an *empire*. History occupies itself with the biography of these empires—their rise, culmination, and decadence. They form a *succession* along the undulating zone of the northern hemisphere of the globe, within the isothermal belt. They form within it a continuous zodiac from east to west.

These *empires* are the Chinese, the Indian, the Persian, the Grecian, the Roman, the Spanish, the British, finally, the *republican empire* of the people of North America.

These are the essential organizations which have received; held intelligently for a few centuries each, the vestal torch of civilization; perpetuated and transmitted it with more or less fidelity. *I repeat again the fact*, that this zone belts the globe around where the continents expand and the oceans contract: it undulates with the axis of warm temperature (52 degrees of mean heat): it contains ninety-five one-hundredths of the white people of the globe, and all its civilization!

As a perpetual and instinctive pressure tends to condense population on to the *isothermal axis*, so it thins out and attenuates in vitality and numbers—repelled by hostile heats on the one hand, and by cold on the other—until the edge is reached beyond which the *white races* make no permanent lodgment in either direction.

CHAPTER XII.

THE NORTH AMERICAN MISSION—CONTINUED.

On the *Oriental* slope of Asia, between the abrupt termination of the vast mountain bulk and the Eastern Ocean, is found an ample region where the whole width of the *temperate zone* invites and fuses population.

This favored area is occupied by the Chinese, whose institutions exhibit a growth of development extending over five thousand years. Never seriously interrupted, progress has so perfected a homogeneous municipal system of laws and education, that 450,000,000 of population (double that of all Europe) are united in one harmonious political system in concord and tranquillity.

But the western frontier of China is blockaded by the inhospitable mountain system which prolongs itself continuously from *hence* to Western Europe. The column of progress has recoiled abruptly from their inclement altitudes, and restricts itself to the narrow margin between their southern base and the raggedly indented sea-coast.

Here the northern half, or *semi*-zone, of the *isothermal belt*, has been left unoccupied; society is cut in half, crippled in territory, and fatally dwarfed in variety and numbers. It has vegetated without elasticity; unintelligent and sluggish.

Everywhere pinched in or repelled by inland seas, *the onward progress hence to the western shores of Europe*, exhibits only transient exemptions from demoralization and disorder. Absorbed by the sterile areas of the Persian Gulf, the Pontic, Propontic and Mediterranean Seas, land in the *southern* half of the isothermal zone is here either totally wanting, or the water surface is only freckled by a stingy succession of peninsulas and small islands, inhabited in broken links.

If, then, the area occupied by China be alone excepted, the narrow and hostile *geographical* structure of the margin along which the column of society has struggled through Asia and Europe, explains its slow, embarrassed, and fitful advance.

The small empires which have partially ripened have been distorted in form, short-lived; disordered by anarchy; heterogeneous and confused in

elements. In ASIA they appear emasculated by the loss of the *northern* temperate semi-zone; in EUROPE, by a counterpart deficiency of the *southern* semi-zone.

As the great ocean chafes perpetually, and tortures itself among the narrow seas, only to become crippled in power and turbid in color and temper: so, a similar acrid turbulence, and loss of the inspiring instincts of power and of moderation, have characterized the mutilated society cramped in along the line of march through *Southern Asia* and the *south* and *west* of Europe.

The sanguinary incubation of military despotisms over multitudinous millions of passive and unchronicled serfs, presents a sombre canopy, through whose darkness the lightning of intelligence has scarcely flashed. Sanguinary monarchies and submissive subjects alone are seen.

The *instinct* of the American people has located and erected the grand maritime cities of Philadelphia, New York, and Baltimore, where our continent receives *the axis of the isothermal zone.* Entering here from the *east*, and favored by the auspicious architecture of our continent, this axis of intensity traverses it athwart to the Pacific Ocean.

It deviates little from the *fortieth degree* of latitude, arching from it slightly in the middle range towards the *south.* Here auspicious nature unveils every propitious gift. The energy of progress, always salient upon this line, has located along it all the first selected and chief cities—Pittsburg, Cincinnati, St. Louis, Leavenworth and Kansas, Denver, Salt Lake City, Virginia, San Francisco. *Here* the intrepid energies of the pioneer population have first and chiefly condensed themselves in force.

But we have seen that North America is *a vast amphitheatre*, and is *concave* in configuration. Its valleys, its mountain chains, its rivers, its Cordilleras, its ocean boundaries, are all and all alike *longitudinal.*

The whole breadth of continent, beneath the *isothermal zone* from Cuba to Hudson's Bay, presents an undeviating harmony. This longitudinal expansion runs flush into the *arctic* zone, and into the *equatorial* zone, absolutely without any barrier or obstruction to its undulating smoothness of surface.

Nature is benignant and graceful throughout her whole scheme, and is propitious in the working of all her laws, and in every element. The *longitudinal mountains* receive the glory of the morning and evening sun upon their flanks, the noontide beams upon their summits—they cast no chilling shadow.

The sun's immortal flame is never withheld, but *perpetually* instils his meridian fire through all living nature, and into the hearts of men, of women, and of growing children. Humanity, nurtured in this affluence

of divine warmth, instinctively receives and cultivates discipline, elasticity, and immortal progress.

The contrasted structure of the continents is therefore familiarly discernible. The one *convex*—its surface segregated—and afflicted with perennial discord. The other *concave*—formed to concentrate all things, and condense them into everlasting unity, order, and concord.

In ASIA resides a population of 840,000,000, distributed into 350 discordant nationalities. In EUROPE 259,000,000 of population, distracted by 137 independent monarchies. Among these immense hosts, and over this vast area, since the dawn of history, monarchy and military despotism have been invariable and universal. The struggles to achieve the individual liberties, self-government, and civilization of the people have been few, transient, and abortive.

NORTH AMERICA has a population of 50,000,000. With them the liberties, self-government, and civilization of the people are and have been normal and universal in principle and practice. Monarchy and military despotism have been always unknown and absent from our continent.

The indestructible principles of social and political science are rescued, one by one, from the chaos and rubbish of Europe. They are known in sufficient numbers to perpetuate, to combine and fortify themselves—to advance from discovery to discovery—from victory to victory, over force, ignorance, and blind error. Rescued from the quicksands of the past, *democratic-republican power*, rightly understanding itself, has here set and perpetuated in the world its own indestructible foundations.

As the continents and oceans of the northern hemisphere wrap the globe in a closed circle, *America is an island*. She is intermediate between the oceans and the outward protruding extremities of the other continent, being equidistant from them.

EUROPE opens all the outlets of its inland seas and rivers towards the *west*, debouching on to our Atlantic front, towards which its whole surface slopes.

ASIA similarly presents to our Pacific front an *Oriental* slope. This contains her great rivers, the densest masses of her population, and detached islands of great area. These gorgeous archipelagoes are brimful of active populations, and of infinite production.

The distance from the *European* to the *Asian* shores, as we accompany the sun, is 10,000 geographical miles!

These ancient masses of population, then, *back to back*, and descending these contrasted slopes, both front America—they face one another across America. The short line of mutual approach is the axis of isothermal

warmth, penetrating four-fifths of the land, and nine-tenths of the population of the globe!

This is the line of way-travel of all the white races, of the commercial activity and industry of the zodiac of civilization!

As, then, this interval of *North America* is filled up, the affiliation of all mankind will be accomplished: proximity recognized: the distractions of intervening oceans and equatorial heats cease: the remotest nations be grouped together and fused into one universal and harmonious system of fraternal relations.

Here, then, *at this moment*, by the arrival of the American people on the summit of the Cordillera, ascending and conquering both its flanks simultaneously, the most startling fact of all time reveals itself—auspicious to the whole human race, and pregnant with the most portentous and immediate consequences.

Suddenly the mysteries of geographical progress are resolved—light and victory substitute themselves for darkness and distrust. Why the halves of the human race, marching the one half towards the setting sun, and the other half towards the rising sun, and perpetually departing asunder—separated in the rear by insuperable physical barriers—broken apart by hostile forces and obstacles—have maintained feebly, and often entirely lost, their mutual relations, is clearly revealed!

Now, *at this hour*, this progress of mutual departure is complete, and completely reversed. Upon the auspicious arena of the American continent and the Pacific Ocean, these columns surprise one another in overwhelming force and numbers. They encounter, face to face, and front to front. The mission of each and both manifests itself. That peace and charity are possible in the world is recognized—chronic war unnecessary, and a consuming blunder.

These multitudes behold one another—the weapons of mutual slaughter are hurled away—the sanguinary passions of a consuming rapacity find a check—a majority of the human family is found to accept and protect the essential teachings of Christianity in practice.

Room is discovered for *industrial* virtue and *industrial* power. The civilized masses of the world meet—they mutually explain and understand one another—they are mutually enlightened, and fraternize to reconstitute human relations and institutions in harmony with nature and with God.

The world may cease to be a unanimous military camp, incubated only by the malignant principles of arbitrary force and abject submission.

A new and grand order in human affairs inaugurates itself out of these immense concurrent discoveries and events.

The great heart of American society palpitates with new fires, impelled by a universal instinct, inspiring discipline in action and rectitude of purpose. Science illuminates their work; circumstances favor and dictate success to their energies.

A divine light, issuing out of the obscurity of the past, shines upon our country and upon our people. It speaks out in the never-silent oracles of *Nature*, in response to which each *individual* heart is free to re-echo and reflect. A finite goal is unveiled to them, and distinctly seen—its possession and fruition are intelligibly revealed.

The *decade*, from 1840 to 1850, has become forever memorable by a crowning discovery made and victory won by the genius of the pioneers. I mean the "GOLD FEVER." *The indefinite production and multiplication of sound money by the individual and voluntary labor of the people.*

Labor and *industry* construct their own empire and assume the administration of governments. Steam upon the ocean and upon the *land:* more potent than armies: condenses labor, and magnifies indefinitely its power and its results. The ameliorating graces of commerce are rescued from the despotic monopoly of riparian cities, isolated on the fringe of the sea.

They transport themselves in generous profusion to the homes of the people, where they live in the depths of the continents. They are diffused to them as the renovating rain of summer distils its drops to every forest tree, to every blade of grain, and to each individual flower. The consuming voracity of government: administered only in the interests of trade and the engulfing rapacity of maritime cities: is uprooted. *Equality* and *equity* in the administration of power are brought within the reach and *practice* of RURAL populations.

Whereas the energies and the conquests of the *pioneer army of the people;* during the last quarter of a century; have caused the most significant and profound perturbations of society throughout the world—as to them also, the CITY OF DENVER owes her location and her future—it is necessary to illustrate the causes of this *extraordinary* freshness and activity.

On July 4th, 1849, speaking by their invitation to the California emigrants about to depart from the Missouri River, I used this language:—

"Up to the year 1840, the progress whereby twenty-six States and four Territories have been established and peopled, has amounted to a solid strip, rescued from the wilderness, 24 miles in depth, added annually along the *western* face of the Union, from Canada to the Gulf of Mexico.

"This occupation of wild territory, accumulating outward like the annual rings of our forest trees, proceeds with all the solemnity of a providential

ordinance. It is at this moment sweeping onward to the Pacific with accelerated activity and force, like a deluge of men, rising unabatedly, and daily pushed onward by the hand of God.

"Fronting the Union, on every side, is a vast *army of pioneers*. This active host, numbering 500,000 at least, has the movements and obeys the discipline of a perfectly organized military force. It is momentarily recruited by single individuals, by families: and in some instances by whole communities: from every village, county, city, and State of the Union, and by immigrants from other nations.

"Each *man* in the moving throng is in force a platoon. He makes a farm on the outer edge of the settlements, which he occupies for a year. He then sells to the leading files pressing up to him from behind. He again advances 24 miles, renews his farm, is again overtaken and again sells. As *individuals* fall out from the front ranks, or fix themselves permanently, others rush from behind, pass to the front, and assail the wilderness in their turn.

"*Previous* to the recently concluded war with Mexico, this energetic throng was engaged at one point in occupying the Peninsula of Florida and lands vacated by emigrant Indian tribes. At another point in reaching the copper region of Lake Superior: in absorbing Iowa and Wisconsin. From this very spot had gone forth a forlorn hope to occupy Oregon and California. Texas was thus annexed—the Indian country pressed upon its flanks—spy companies reconnoitred New and Old Mexico.

"Even then: obeying the mysterious and inscrutable impulse which drives our nation to its goal: a body of the hardiest race that ever faced varied and unnumbered dangers and privations, embarked upon the trail to the Pacific coast. They forced their way to the end: encountering and defying difficulties unparalleled; with a courage and success the like to which the world has not heretofore seen.

"Thus, then, *overland* sweeps this *tidal* wave of population, absorbing in its thundering march the glebe, the savages, and the wild beasts of the wilderness: scaling the mountains, and debouching down upon the seaboard. Upon the high *Atlantic* sea-coast, the pioneer force has thrown itself into ships, and found in the ocean fisheries food for its creative genius. The whaling fleet is the *marine* force of the pioneer army. These two forces, by land and by sea, have both worked steadily onward to the North Pacific.

"They now re-unite in the harbors of California and Oregon, about to bring into existence upon the Pacific a commercial grandeur identical with that which has followed and gathered to them upon the Atlantic.

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"*Hence* have already come these new States: this other seaboard: and the renewed vivacity of progress with which the general heart now palpitates!

"Will this cease or slacken? Has the pouring forth of the stream from Europe ever ceased since the day of Columbus? Has the grass obliterated the trails down the Alleghanies, or across the Mississippi? Rather let him who doubts seat himself upon the bank of the supreme Missouri River, and await the running dry of his yellow waters! For sooner shall he see this, than a cessation in the crowd now flowing loose to the Western seaboard!

"Gold is dug—lumber is manufactured—pastoral and arable agriculture grow apace—a marine flashes into existence—commerce resounds—the fisheries are prosecuted—vessels are built—steam pants through all the waters. Each interest stimulating all the rest, and perpetually creating novelties, a career is commenced, to which, as it glances across the *Pacific*, the human eye assigns no term!" . . .

It is to the infallible judgment and the intrepid valor of the *pioneers* that the American people owe the selection of Colorado and the auspicious *cosmopolitan site* of DENVER. The one crowns and embraces the supreme altitude of the continent, and majestically arches the Cordillera: the other rests in the focus of the continental scheme of activity and fresh forces.

By the exalted energy and devotion of *the pioneer army*, the imperilled Union has been saved from obscure speculations and blind theories.

We had beheld a period of repression; during which our people had been driven by malignant legislation in a maritime shell around the continent: its vast *centre* had been retained as a desert disc.

The patriotism and energies of the people, pent up and exasperated by malignant politics, had become deformed and distorted by civil strife: our soil incarnadined with fraternal blood.

With the *pioneer army* rests the glory which has vindicated the mission of America: which preserves, enlarges, and perpetuates the *continental union* of the States; elsewhere rocked to its foundations, and enervated by nepotism to the *foolish fashions* of Europe.

While European sentiment and its dismal political bigotry has everywhere fomented civil war and slaughter; invaded Mexico; bombarded the West Indies and South America; filled Canada with incendiaries, and the ocean with pirates: ancient, bountiful, wise, prolific, and luxuriant Asia, has cultivated and pressed upon us peace, friendship, sympathy, and the affiliation of her redundant populations and productions.

Advancing to meet and embrace this fresh and splendid arena: marching with the double purpose to assimilate with the *Asiatic* system and

activities, and to emancipate itself from the impoverishing and sterile monopoly of the Atlantic, the *pioneer army* selects DENVER.

Here the geography and drainage of the Atlantic comes to an end; that of the Pacific is reached. Infallible instinct adheres to the *isothermal axis*.

Here is the propitious point to receive the column from ASIA, debouching from the ocean and the mountains to radiate and expand itself *eastward* over the unobstructed area of the Mississippi basin! We consent to face about! The rear becomes the front! *Asia* in front; *Europe* in the rear!

DENVER is 875 miles from Sacramento: 1461 from Mexico City: 1100 from St. Louis: and 2200 from New York.

It is, therefore, by proximity identified with the *Pacific Ocean* and with *Mexico*.

It is the salient point to which Asia and Polynesia will come, seeking a central base from which to distribute themselves over the *eastern* area of America and to Europe. The selection thus first made by the inspired and infallible judgment of the *pioneers of the wilderness* will forever remain unanimously acceptable to the American people.

The *instinct*, the whole embodied force and pressure of interest, judgment, power, and patriotism of the people of the Pacific, will construct the *Central* Railroad of North America, from San Francisco to Denver!

Why this conclusion dictates itself as eminently probable, is illustrated by innumerable shining and concurrent facts of nature and experiences of progress.

DENVER is in a focal point of impregnable power in the topographical configuration of the continent. It is a *focal* point for the great *radiant* rivers, six in number, whose channels form a multitude of unbroken grades descending to the *Atlantic*. It is equally so for those streams which, scalping the escarpments of the Cordillera, prolong these gradients and graft them, through and through, on the counterpart *focal* system of the rivers of the Pacific.

The symmetrical propinquity and *inter*-radiation of the plains of the Arkansas and Platte Rivers—enveloping and fusing into the plain of the Kansas—carry the *Great Plains*, like an undulating ocean, sheer up to the primeval *Cordillera*. *This is here unembarrassed by outliers.*

The GREAT PLAINS form a descending slope to the longitudinal trough of the Mississippi River, basking themselves in the eastern sun. By their intense fertility and immense area, they are about to give to our people supremacy in the world.

The GREAT PLAINS extend from the Mexican Gulf to the Arctic Sea.

They are of a uniform *drift* formation, alluvial and diluvial: they have a width, from west to east, of 1200 miles; a longitudinal length of 3500.

The destruction of the mountains forms their soils, in which every active element of fertility and production is mingled. This huge area owes its construction and its smoothness to the vast net-work of rivers which meander down its slope; but still more especially to the *atmospheric* currents flowing perpetually from the *west*.

In this work *Nature* employs the industry of multitudinous myriads of minute animals. *The zoophytes erect coral islands from the abyss of the ocean.* Here the ants, the marmots, the badgers, the foxes, the wolves, everywhere erect their multitudinous nests from the powder and minute gravel of the subsoil.

Dried by the sun and fanned by the *west wind*, from each separate hillock rises, to the height of thirty feet, a whirlpool of soil. This travels, from *west* to *east*, a few hundred feet, bursts and sows itself broadcast. *Periodically* come sand-storms of force and violence, which, to a less distance and similarly, transport the fine gravel and small boulders.

This system of natural forces, acting through countless ages, has formed by the *atmospheric* currents this prodigious sloping glacis. As large in expanse as is the Atlantic Sea, the winds sweep over and mould its surface as completely as they ruffle the water surface and drive the waves of the ocean.

This *porous* drift material absorbs promptly and hides the water coming from the clouds. These waters permeate down and underflow upon the bed-rock foundation, which has the same perpetual slope and is parallel with the top surface. Elevated for irrigation by artesian wells, *after use* it again sinks to its home beneath, and is protected from evaporation.

Of the fattest fertility; drained beneath; everywhere supplied with artesian waters, there is no interruption to this propitious structure and uniform adaptability to *arable* culture. Every acre of this ocean prairie thus offers itself for the production of the cereals.

In their *undisturbed* nature these plains are *pastoral:* they have, within the knowledge of our people—within my own knowledge—sustained 100,000,000 of *aboriginal* grazing stock, feeding themselves upon the perennial grasses, *as fish in the sea.*

Animal life is as multitudinous, and as various in kinds, as is the counterpart *marine* population of the ocean! Mineral fuel, and material for building and fencing, are abundant and universally distributed. The atmosphere is uniformly moderate in temperature, favorable to health, to longevity, to intellectual and physical development, and stimulative of an exalted tone of *social* civilization and refinement.

Such is the grandeur which displays itself around us to the north, to the east, and to the south. Nature groups her favors in endless varieties, in the most auspicious forms, and in the palmiest dimensions.

Towering above us on the *west* are the cloud-compelling summits of the *Eastern Cordillera*. We have seen that the system of the North American Andes here reaches its extreme departure from the oceans; its most salient angle of expansion; culminating also in supreme bulk and altitude.

Enveloped within them are the *Parcs:* adjacent to and beyond these, are the immense mountain basins of the Rio del Norte; the Colorado; Salt Lake; and Columbia: all upon the expanse of the PLATEAU.

In and around the PARCS is preparing itself the mining laboratory of the world. The rare economy in structure, climate, inter-oceanic convenience, prolific food, miscellaneous materials and metals, constitute and locate here the paragon of all geographical positions.

CHAPTER XIII.

THE NORTH AMERICAN MISSION—CONTINUED.

THE discoveries of exact science teach us conclusively what is desirable to be known.

Everybody is familiar with the manufacture of shot. This is accomplished by pouring liquid lead at a high elevation through perforated moulds. Each pellet of lead descending through the air is formed into a sphere, as it cools, by the invisible force of gravity.

The globe of the earth has had a similar origin; once a liquid mass; now a solid gravitating sphere of 8000 miles in diameter, such as we inhabit it. Geology explains how the material mass of this great sphere has arranged itself into layers or shells, enveloping one another like the successive coatings of an onion, or rather as the pulp of an orange with many successive rinds.

Specific gravity accounts for the relative positions of these layers one upon the other: it explains to us where and how to penetrate to their metalliferous contents. It is in the *primeval rocks exclusively* that the precious metals and gems are found. The base metals are found in the *calcareous* rocks.

Specific gravity guides us to discover the rocks in which the metals are found and when they are totally absent. If into a hollow pillar of glass there be poured a quart of quicksilver, one of water, one of oil, and one of alcohol, these liquids will rest one upon the other in this order.

If a piece of gold, of iron, of wood, and a feather, be thrown in, they will sink—the gold to the bottom, the iron to the quicksilver, the wood to the water, the feather to the oil. If this whole mass be congealed to ice, this arrangement will remain solid and permanent. The gold must be sought for *sedimentary* to the quicksilver; the iron above it, but *sedimentary* to the water; the wood resting upon the water, but *sedimentary* to the oil.

In the stupendous proportions and exact order of nature, a similar arrangement holds in the rocks which envelop the globe of the earth in a crust, as the contents of an egg are held within its shell. This crust or shell is known to be 125 miles in thickness.

These rocks, once all soft or liquid, are now all permanently solid, in the order of their relative specific gravities.

But, as the bottom contents of a meadow-field are ripped up by the driving force of a subsoil plow, so the compressed fires and chaotic forces of the interior globe, tearing through its crust, have thrown up the *titanic longitudinal furrow* which is now the elevated CORDILLERA from Cape Horn to Behring's Strait.

The lowest rocks, therefore, split asunder and driven up vertically, now form the summit of the *Cordillera*. The rended facings of the bottom plates become the surmounting top of the Sierra. The warped sides, bent upwards, form the sloping flanks of the Sierra. Piled against these, the superincumbent strata are lapped.

These appear as successive benches upon the flanks of the *Cordillera*, forming a rugged staircase, whose steps are each of *continental* magnitude and dimensions. Such is the aboriginal profile of the *primeval Cordillera*, now rasped away and ragged by corrosion and the play of the elements during countless millions of seasons.

But science, with equal truth and simplicity, ascending upwards from the earth's surface, explains the ATMOSPHERES which embrace the globe *outside*, and handles them without obscurity.

The globe is covered externally with a liquid shell of water, through which the contents protrude: this is the ocean, *aqueous atmosphere*, being dense and visible to the eye.

External to this, and resting upon it, is the shell of the *aerial atmosphere*. This atmosphere is invisible to the eye; but the vapors exhaled from the land and the ocean ascend into it; are condensed into mists and rain-clouds, which float through it in visible masses.

At an altitude of 4000 feet, this *aerial atmosphere* terminates as abruptly and completely as has the *aqueous atmosphere* at our feet. Above its limit, or upper surface, the *rain*-clouds do not ascend, but have their termination and level similarly to the *aqueous atmosphere* beneath.

External to the *aerial atmosphere* is the ETHEREAL *atmosphere*, beyond which animal life, vegetation, and clouds cease to exist.

Physical geography defines those portions of the earth's surface within the *aerial atmosphere* to possess a MARITIME climate; those within the *ethereal atmosphere* to possess a CONTINENTAL climate. The PLATEAUX of North America, of Central Asia, and of South America enjoy a *continental* climate; the rest of the earth's surface lies within the *maritime* climate.

How perfectly the area of COLORADO possesses a *continental* climate and lies within the *ethereal* atmosphere, manifests itself to every observ-

ing eye. The illustrations and proofs of this are conclusive in every department and minute detail of nature—upon the surface of the Plains: in the canopy overhead; in the mountains; in animal life; and in the vegetation.

To the traveller who ascends from *east* to *west*, at the passage of the 102d meridian, the metamorphosis over the whole landscape is complete. The surface of the earth is uniformly dry, compact, and free from mud; the forest has disappeared even from the rivers; where irrigation, other than that supplied from the clouds, is absent, wormwood, the cactus, and delicate perennial grasses only grow; the air is intensely pungent, tonic to the taste, dry, and translucent; the atmospheric pressure diminishes, and animal digestion is modified.

Across the canopy, which is intensely blue in color and brilliancy, rush incessantly, like horsed couriers of the air, *cumuli clouds*, burnished with and radiating silver fire. This gorgeous *meteoric* display of clouds is multitudinous and incessant round the year: they contain neither rain nor electricity; and descend over us with mysterious and incalculable velocity in the *aerial atmosphere*.

The *atmospheric currents* pour incessantly from the *west*—the mountains gather but little snow—they are naked and dry at midsummer. The rivers are without affluents, and expend their waters by evaporation. The incessant passage of clouds does not obscure the sun, but refracts and intensifies his inspiring light.

There are neither moisture, miasmas, nor perceptible exhalations of any kind. Dust is not frequent. Serenity, moderation, and purity reign within the complete circuit of the horizon. The mind of man is soothed, tempered, and modified by this immense benignity throughout nature, which infuses itself, and assimilates everything but human avarice and rapacity.

The superb richness of color and of dissolving shades are infinitely variegated and delicate. The *vision*, aided by the continually increasing elevation, is far penetrating and distinct in its recognitions. Within and among the mountains and upon the PLATEAU, the rainless character, serenity, and splendor of the atmosphere are the same. All these generous attributes gather in force, and are enhanced by the superlative beauty and sublimity of their marvellous structure, magnitude, and number.

The *precise facts* which fix the supreme climatic excellence of Colorado are these: the latitude—the elevation above the sea—the remote seclusion from the sea. These all attain here their *maximum*, and unite harmoniously. This results from the astonishing and auspicious concord between the grand laws of nature; the comprehensive scale of the architecture; and the favorable *local* configuration.

The *North American Andes* everywhere prove themselves to have been driven up through the bed of a primeval ocean, of which the *Mississippi basin* is the still unaltered bowl. The sedimentary strata, like a nest of bowls lining the abyss, are broken off and tilted up along the indented base of the mountains.

A traveller who approaches the *Atlantic seaboard*, coming from the *east*, sees that ocean penetrating every bay, gulf, harbor, and indentation of the land, preserving an unalterable level. In the same way, wrapped against the Cordillera, and meandering its infinitely indented roots with the same undeviating fidelity, are seen the rended edges of the *calcareous* strata.

Each stratum having its characteristic color, *this fringe of a departed ocean* is traced without intermission lengthwise through the continent. It is easily discernible, as though a continuous rainbow were plaited in to mark the line of junction, where the sedimentary and primeval rocks join together and depart in opposite directions, each to maintain exclusive dominion.

Thus, ascending along the arc of the 40th degree of latitude, a distance of twenty miles from the *Plains*, directly up to the summit of the *Cordillera*, every elementary rock of the geological scale is crossed, arranged in order and placed in position. At the lower end appears *diluvial drift*, the top settlings of the sea; at the other end the *primeval porphyry*, upheaved from the lowest crust.

Here, in economical juxtaposition and luxuriant profligacy, are found every metal, every rock, every clay, every salt, every alkali, fuel, arborescence, vegetation of grasses and flora—every and each element of the geological scale to which human industry applies its skill, or manufactures and converts to social use.

I am awed by these marvellous facts of nature, which cannot escape recognition. I have not discovered that they exist, or can so exist, elsewhere round the earth's circumference, in any such complete combination, of such purity and magnitude, as here—*intermediate*—upon the condensed track of way-travel of the populous and active zodiac of mankind.

A startling and profound novelty here displays itself and fixes our attention.

All along the *longitudinal Plateau*, altitude and the protection of the Cordilleras temper the *heat* towards the equatorial zone; the same causes temper the *cold* towards the polar zone. These extremes of temperature for the day and for the night are great; for the seasons round the year scarcely perceptible. In one word, the temperature is uniformly *vernal*.

By this, the genial and propitious climate of the *isothermal zodiac* is

prolonged outward upon its north flank, and its south flank: it extends up and down the area of the *Plateau*, and is felt to both its extremities.

Thus is illustrated the severe *contrast* among the continents, North America being in its configuration *concave*—all the others *convex*. Elsewhere, hostile structure, perpetuating incorrigible distraction, segregates society and dwarfs its energies.

In *North America* a homogeneous unity of language, population, and manners is unavoidable. This is benignantly amplified by an undulating variety of contour, pervading equally the mountain system and the plains. This happy combination provokes the highest development and discipline of energy, and the most exalted civilization.

As for the *site* upon which the CITY OF DENVER is founded, it is pre-eminently *cosmopolitan*. It pre-occupies the auspicious focus into which Nature groups all her colossal elements. We are at the base of the *Eastern Cordillera*, whose summit, nowhere penetrated by navigation for ten thousand miles, forms the *physical meridian* which parts and unites the two hemispheres of the globe.

Here the vast arena of the Pacific basin fits itself to the basin of the Atlantic, edge to edge. The goal is reached where the zodiac of nations closes its circle. The gap between the hemispheres is bridged over forever.

We are upon the *isothermal axis*, which is the trunk line (the *thalweg*) of intense and intelligent energy; where civilization has its largest field, its highest development, its inspired form.

There is an intoxicating grandeur in the panorama which unveils itself to the spectator looking out from the crest of the neighboring Cordillera. In front, in rear, and on either flank, Nature ascends to her highest standard of excellence.

Behold to the right the Mississippi Basin: to the left the Plateau of the Table Lands: beneath, the family of Parcs: around, the radiating backs of the primeval mountains: the primary rivers starting to the seas: a uniform altitude of 8000 feet: a translucent atmosphere, a thousand miles removed from the ocean and its influences: a checkered landscape, from which no element of sublimity is left out—fertility and food upon the surface; metals beneath; uninterrupted facility of transit.

Behold here the *panorama* which crowns the middle region of our Union; fans the immortal fire of patriotism; and beckons on the energetic host of our people!

Here, through the heart of our territory, our population, our States, our cities, our mines, our farms and habitations, will traverse the condensed commerce of mankind—where passengers and cargoes may, *at any time or place*, embark upon or leave the vehicles of transportation.

Down with the parricidal policy which will banish it from the *land*—from among the broadcast dwellings of the people—to force it on to the sterile ocean: outside of society, through foreign nations—into the torrid heats: along solitary, circuitous routes: imprisoned for months and dwarfed in great ships!

RAILWAYS, multiplied and spanning the continent, are essential domestic institutions; more powerful and more permanent than law, or popular consent, or political constitutions, to thoroughly complete the grand system of fluvial arteries which fraternize us into one people—to bind the *two seaboards* to this one *continental union*, like ears to the human head—to radicate the *rural* foundations of the Union so broad and deep, and establish its structures so solid, that no possible force or stratagem can shake its permanence—to secure such scope and space to progress, that equality and prosperity shall never be impaired, or chafe for want of room!

To DENVER is secured a career into which all these favorable facts of position and circumferent area are now united. The North American people number *fifty millions* in strength. *Two millions* annually shift their homes. This force is, *par excellence*, the pioneer army of the North American people. This movement causes an uninterrupted pressure of the people from *east* to *west*, resembling the drift of the ocean which accompanies the great *tidal* wave.

Diurnally is the surface of the sea lifted up in silence and poured upon the coasts of the continents. Exactly similar to this is the movement, annually gathering force, and seen to impel our people through and through from the *eastern* to the *western* limit of the land.

The inscrutable force of *gravity*, which with minute accuracy holds the planets in their orbits, or causes each drop of rain to fall, sways the instinct of society. This gravitation presses from all directions upon the axis, and to the focus of intensity. This regular instinct of movement has been transiently interfered with by the artificial passions and demoralization of civil strife. It rapidly assumes again its temper and its regularity.

Our neighbors from California work up to us with miraculous energy and celerity. They bring with them the open avenue to us from *Asia*.

The *Mexican* column reaches us from the *south*. On the *north* the activity is great, and in close contact. These several columns simultaneously converge upon us. They increase *every moment* in numbers, weight, and celerity of motion.

We no longer march into the blind wilderness, dependent upon and chained *exclusively* to Europe in the rear. We open up in front the gorgeous arena of the ASIATIC OCEAN

At present, the huge city of London monopolizes the imports from the *Oriental* world. These are stored there, and retailed to the people residing in the basin of the Atlantic.

Upon the labor of the American people, so far as they participate in the consumption of *Oriental wares*, is harnessed the frightful burden to support the British people and the British Empire, and to be devoured by their voracious despotism of trade.

The work of emancipation is accomplished by the intrepid energies and conquests of the pioneer army of North America. It only remains to be appreciated and accepted by the people.

We are about to supply by direct export the food and precious and base metals to 850,000,000 of neighboring Asiatics! To Japan: to China: to India. To the gorgeous islands of Borneo: Sumatra: Java. To the Philippines: the Celebes. To the Archipelagoes of the Sooloo Sea and Polynesia! These are *larger* in aggregate area, and more populous, than Europe; *and are nearer to us.*

Included within the *equatorial* zone, but approached by us through the *temperate* zone, they overflow with merchandises desirable to our people, in multitudinous affluence. To us will belong the prodigious carrying trade upon the seas for these infinite multitudes. The equatorial *heats* are outflanked and avoided. The conflict for dominion over the multiplied commerce of the world is fought, and the conclusive victory is won for our country.

A large majority of the American people now reside within the Mississippi Basin, and in this Asiatic front of our continent, which is born from us.

Nascent powers, herculean from the hour of their birth, unveil their forms and demand their rights. States for the pioneers; self-government for the pioneers; untrammelled way for the imperial energies of the forces of the Rocky Mountains and the Pacific Sea, may not long be withheld by covetous, arbitrary, and arrogant jealousy and injustice!

In the conflict for freedom, it is not numbers or cunning that conquers; but rather daring, discipline, and judgment, combined and tempered by the condensed fire of faith and intrepid valor.

As it is my hope, in these notes, to contribute what may be valuable, I adhere strictly to severe facts, and reject absolutely all theory and speculation. These facts are as indestructibly established as is the alphabet, and are as worthy of unquestioning faith and credence.

That we may look into the gathering achievements of the *near* future, without obscurity, and with an accurate prophetic vision, I may without censure submit what is within my own personal experience.

It fell to my lot, during the years from 1840 to 1845, alone and in extreme youth, to seek and chalk out, in the immense solitudes filling the space from Missouri to China, the lines of this dazzling empire of which we now hold the oracular crown—to have stood by its cradle—to be the witness of its miraculous growth.

It is not for me, in this season of gathering splendor, to speak *tamely* upon a subject of such intense and engrossing novelty and interest. I may properly here quote the concluding sentences of a report which I was required to make on the 2d of March, 1846, *to the United States Senate*, at that time brimful of illustrious statesmen. What I said then and there, in the first dawning twilight of our glory, I will now repeat:

"The calm, wise man sets himself to study aright and understand clearly the deep designs of Providence—to scan the great volume of nature—to fathom, if possible, the will of the Creator, and to receive with respect what may be revealed to him.

"Two centuries have rolled over our race upon this continent. From nothing we have become 20,000,000. From nothing we are grown to be in agriculture, in commerce, in civilization, and in natural strength, the first among nations existing or in history. So much is our *destiny*—so far, up to this time—*transacted*, accomplished, certain, and not to be disputed. From this threshold we read the future.

"The *untransacted* destiny of the American people is to subdue the continent—to rush over this vast field to the Pacific Ocean—to animate the many hundred millions of its people, and to cheer them upward—to set the principle of self-government at work—to agitate these herculean masses—to establish a new order in human affairs—to set free the enslaved—to regenerate superannuated nations—to change darkness into light—to stir up the sleep of a hundred centuries—to teach old nations a new civilization—to confirm the destiny of the human race—to carry the career of mankind to its culminating point—to cause stagnant people to be re-born—to perfect science—to emblazon history with the conquest of peace—to shed a new and resplendent glory upon mankind—to unite the world in one social family—to dissolve the spell of tyranny and exalt charity—to absolve the curse that weighs down humanity, and to shed blessings round the world!

"*Divine task! immortal mission!* Let us tread fast and joyfully the open trail before us! Let every American heart open wide for patriotism to glow undimmed, and confide with religious faith in the sublime and prodigious destiny of his well-loved country."

APPENDIX.

I.

MEXICAN WAR.

REMARKS OF MAJOR GILPIN, AT THE BARBECUE GIVEN THE COLE INFANTRY, AT JEFFERSON CITY, THURSDAY, AUGUST 10, 1847.

HAPPY are those who, after hopes long suspended and harassing anxieties long and doubtingly endured, come to find their hopes consummated by brilliant successes, their anxieties relieved by enthusiastic praises and the shouts of triumph.

Such are the soldiers who, their trials ended and their long and exhausting services at an end, are here assembled to receive the greetings of their kindred, and listen to their flattering praises and their shouts of victory and welcome.

During thirty-two years of peace,—a long period, which includes the birth of nine-tenths of us,—our own State has joined the confederacy. War came suddenly. With the same pen which signed the declaration of hostilities between Mexico and the United States, the President directed to Missouri *the first requisition for the War!*

It asked a slender force of 1500 men,—all volunteers but 300 dragoons —to cross the Great Plains and penetrate Mexico by the north.

Bounding forth at the sound of the war-bugle, in one month were assembled at Fort Leavenworth, beyond the western verge of our Union, the 1st Regiment of Missouri Cavalry, the battalion of Artillery from St. Louis, the battalion of Cole Infantry, and the Laclede Rangers, 1200 in all, and forth they marched.

Wars had occupied mankind for one hundred centuries, but they had been wars between adjacent nations—marches had been confined to inhabited countries, where provisions abounded on the routes.

Here was a wilderness of a thousand miles to be traversed, and the enemy to be encountered at home, in great strength, and abounding in resources. A failure to transport with us complete supplies was certain disaster and starvation—a check received from the enemy at their threshold would

eventuate the same. This enemy was the people of Mexico, a sister Republic.

Years had been exhausted in ingenious devices on our part to avoid this conflict. Our citizens had been massacred in Texas amidst the very orgies of barbarism—our merchants had been plundered and imprisoned —our flag insulted in their metropolis—our citizens murdered, maltreated, and scoffed for their religion—debts accumulating during thirty years unpaid—treaties contemptuously violated—more than all, an attempt to imitate our republican system, productive only of anarchy, stood as a burlesque beside us on our own continent, furnishing to the malevolent food for satires upon popular freedom in the New World.

Forth, then, into the wilderness plunged the little army of Missouri to encounter these enemies of their country—their country to them *always right*.

The plains were passed, and the rugged mountains which, dividing from the Rocky Mountains, encircle New Mexico, were reached. Their rapid progress had outstripped the provision-trains. Amidst fatiguing marches, dust, solstitial heats, and scanty water, subsisting on one-quarter of the ordinary ration, they rushed onward to Santa Fe.

The army of New Mexico, in numbers three to one of our force, occupying the impregnable gorge of Gallisteo, which covers the approach to Santa Fe, dispersed in dismay. On the 18th of August, three months from the proclamation of war, made at Washington City, 2300 miles distant, the state of New Mexico lay conquered, and the American flag floated over the Capitol at Santa Fe.

Occupied until the middle of September in securing the subjugation of the country, the 1st Regiment descended the Del Norte to the lower settlements, receiving the submission of the towns and people, and returned to Santa Fe.

New Mexico contains 100,000 inhabitants, vast resources, and by its basin-like configuration is easily defensible, and difficult to be conquered or long held in subjection.

New Mexico is surrounded by powerful tribes of military Indians: the Comanches, towards Texas—the Yutas and Navajos in the Rocky Mountains, and on their slope towards the Pacific.

Issuing from the surrounding mountains, these warlike Indians strike down the people, devastate the banks of the Del Norte, and drive forth the stock. In years past they have plundered from Mexicans many millions of sheep and cattle. By the submission of New Mexico we had become the guardians of her people and territory. The pious duty remained to tame her savage foes.

The infantry, artillery, and dragoons remained to garrison Santa Fe—a fort was built to command its approaches—a treaty was asked for and made by the Comanches. The 1st Regiment, in three detachments, departed for the recesses of the Rocky Mountains late in September: the one penetrating towards the northwest by Canada and the Chamas against the Yutas and Navajos; another southwest by Albuquerque and Saboletta; a third descended by the Del Norte, covering the American traders bound eventually to Chihuahua.

The northern column passed out through a denuded country and devastated villages, to which the fugitive Mexicans returned under its protection, and, reaching the recesses of the Rocky Mountains by the sources of the river Chamas, in *one month* delivered to the authorities in Santa Fe 65 Yutas, including their chiefs and chief warriors.

With them was formed a treaty of peace, since faithfully observed by those Indians. This restored many thousand families of Mexicans to their farms and firesides, and gave quiet to the northern frontier.

Supplies having been with great difficulty collected, this same column prepared to pass the eternal barrier of the Rocky Mountains, and scare up the Navajos, reposing in security on their western slope.

On the 2d of November (in this climate the depth of winter, indicated by the snows which enwrapped the surrounding mountains), this little force, 300 strong, abandoning their tents and wagons, entered the gorges that led up to the "Pass of the San Juan," the head of this great river which flows to the Pacific.

With us were 70 Mexican allies and 100 pack-mules transporting provisions. In seven days, contending against snow-storms and ice at an altitude of 10,000 feet in mid-winter, and unpalatable water, the passage of the "*Great Mother Mountain*" of the continent was accomplished. The measles scourged our camp. The brave boys, Foster and Bryant, fell a prey to its ravages.

Following for some days the great San Juan, leaving its banks swarming with the sheep and horses of the Navajos, and crossing towards the south the impracticable mountain of Tunicha (never before trodden by white men), we descended into the cavernous region of Challa, amidst the seclusion of which are the forts and fastnesses of the Navajos.

Astounded at the appearance of an American force where they had trusted it could never penetrate, the chiefs tendered presents, restored the horses which had been stolen from New Mexico, and promised abject submission.

Taking with us nine chiefs commissioned to bind the nation, we hastened toward the snowy peaks which rose 200 miles to the east and barred

our return to New Mexico. At the *western* base of these, in the territory of the Zuñi Indians, we awaited the arrival of the colonel commanding, to whom the Navajos' chiefs swore eternal friendship to the white man.

Marching hence under the western edge of the mountain crest, we visited and smoked the pipe in the city of the Zuñi Indians. This people, many of them albinos, one of the lost specks of the antique Azteq race, inhabit a solitary city in the centre of the immense plain traversed by a northern branch of the Gila River.

Hence, recrossing the "Great Mother Mountain" by the Zuñi Pass on the four first days of *December*, we descended to the Del Norte. Joyously did we meet again our fellow-soldiers, and soon the 1st Regiment found itself reunited at Valverde, 250 miles below Santa Fe, about to pass onward to the conquest of El Paso and Chihuahua.

Thus, since our departure from Santa Fe, had our little force under my command reduced to peace the Yuta and Navajo nations, 40,000 strong, accomplished a march of 750 miles, crossed and recrossed the Sierra Madre, passed the Tunicha and Chiuska Mountains, and many rivers.

During many successive nights the cold descended to the freezing-point of mercury: the streams were frozen solid: the pasture scanty: and of fuel there was but a stingy handful of evergreen weeds:—two brave men and many horses had perished: for the rest, their health was good, and their spirits always gay and undaunted.

This is the first military force of our nation which, *crossing* the Rocky Mountains and unfurling the national standard upon the *waters of the Pacific*, has received for it the submission of a hostile people; and this was accomplished in the depth of winter.

A portion of our little army (the artillery and infantry) remained to occupy New Mexico; another, accompanying General Kearney, had gone to secure the conquest of California. The Indians having been subdued, the 1st Regiment was now concentrated at Valverde, on the lower edge of New Mexico, meditating the conquest of the rich and populous state of Chihuahua.

This was the 12th of December. Our regiment mustered 760 men. The weather was intensely cold, the river ran with ice—we had no tents—and our animals starved upon the harsh, dry grass. In *El Paso*, 200 miles below, are comfort and plenty—wine and corn, and houses, and a delicious climate; but there, too, are a regular force of 1500 Mexicans and five pieces of artillery. Between the armies is the "Jornada," or "Journey of the Dead," a dreary stretch of 100 miles, without wood or water.

At the entrance of the "Jornada," awaiting our advance, were the

American merchants, having 300 wagons, charged with $1,000,000 worth of merchandise. One hundred men under Captain Hudson subsequently came to us from Santa Fe, called the "Chihuahua Rangers"—they were drawn from the 2d Regiment (Colonel Price's). An express was sent back to Santa Fe for one company of artillery, commanded by Captain Waitman. This company overtook us afterwards in El Paso—about the 1st of February.

On the 12th, a forlorn hope of 300 passed onward to open the passage through the "Jornada"—with this were Captains Parsons, Waldo, Reid, and Rodgers. We expected to meet the enemy as we should pass onward from its jaws.

The passage was accomplished—no enemy obstructed our exit at the farther end—we descended to the river and quenched our thirst, continued during three days and nights. Robledo is the name given to the lower mouth of the Jornada. Twelve miles below is the little town of Dona-Ana—it has plenty of corn and 600 people.

This is the only settlement above El Paso, which is 80 miles distant. On the morrow we entered Dona-Ana, and there learned that the Mexican army would advance to meet us as we should descend to El Paso.

On the 23d, our whole force, having successfully passed the Jornada, reunited at Dona-Ana.

On the 24th, our march was 18 miles. On the 25th, advancing rapidly ahead of the wagon train, we encamped at Brazito, 19 miles, about one o'clock. The camp-guard, 60 strong, the wagon-guards, and many men with jaded horses, were in the rear. *This was Christmas day.*

At two o'clock, the approaching cloud of dust revealed the advance of the Mexicans. The bugles sounding to arms, our force was deployed in a single line on foot upon the prairie in front, and enveloping the wagons:—we numbered 424.

The Mexicans deployed immediately in our front, in gallant style, and rapidly:—they numbered 1250. The veteran Vera Cruz Dragoons were on the right—the Chihuahua Cavalry on the left—in the centre, infantry. Now it was that a black flag was flapped in our eyes from the centre of the Mexican line. It was defied—the shock of battle followed.

The Mexicans charged upon our line—their cavalry converging to our front, their infantry advancing. Our men, sitting down and receiving many volleys from their artillery, musketry, and escopettes, decoyed them close—when suddenly rising and pouring in a lurid sheet of fire, the enemy, riddled everywhere, fled howling.

Their artillery was taken, 63 were killed, and a vast quantity of arms taken from them. Those who escaped deserted from the Mexican army.

This was Christmas day, the 9th anniversary of Okechobee. Thus did the Missouri volunteers confirm upon him the *great lie* uttered against them by their commander on that former day.

Victory hastened our marches. On the morning of the 27th, we entered El Paso. Awaiting the arrival of artillery, we lingered six weeks in the delicious settlements of El Paso. About 20,000 Mexicans here cultivate the grape, and enjoy much prosperity and a delicious climate.

On the 9th of February, we moved on to Chihuahua. The interval, 280 miles, if seen by you who inhabit this our verdant land, would be pronounced a howling desert, such is its austere and forbidding aridity—Sahara does not exceed it—*jornadas* of 75 miles, without water, wood, or grass—gravel, sand, and rocks possess it merely—benumbing cold at night, at mid-day hot and dusty.

On the 27th, we reached Sous, 40 miles from Chihuahua: midway between Sous and Chihuahua is Sacramento: here is the only water in that whole distance, and between us and the opportunity to slake our thirst, was entrenched the Mexican army.

On the afternoon of the 28th, was gained *the marvellous victory of Sacramento*, in which your soldiers covered themselves with imperishable glory. On the following and succeeding days our whole column entered Chihuahua.

At Chihuahua we heard with exultation of the gallant conduct of the Cole Infantry and Fisher's Artillery, at Cañada and Taos—of their good discipline and gallant bearing whilst in garrison at Santa Fe. These were soldiers of *the first requisition*, and tried with us the opening campaign of the prairies. Let us here, then, as at Chihuahua, crown with the same chaplet the soldiers of Brazito, Sacramento, Cañada, Taos, and El Paso—sharing alike the honours won by all.

During two months did the Missouri column hold undisturbed possession of the metropolis of Chihuahua, and control its dependencies. Insurrections planned both here and at El Paso were anticipated and nipped in the germ. American traders and messengers traversed the State unharmed. It had been said that so small a force could not hold Chihuahua. *It was done*, and that with a firm and tranquil grasp.

But the period of our service neared its close. From our own government not a whisper had reached us from the outstart—no pay—no ammunition (our cartridges were made of powder taken at Brazito)—no reinforcements—no money—no reminiscence of our own existence was discernible.

General Wool had deflected from his first intentions, and never appeared at Chihuahua. On the 26th of April, Chihuahua was evacuated, in obe-

dience to an order from General Taylor, that we should join his column at Buena Vista and Monterey.

The march to Monterey, 650 miles, was accomplished in 29 days—17 pieces of artillery, with their caissons, and a train of 200 heavy wagons, accompanied us. It was upon this descent from the table lands to the maritime region, that our sufferings, from brackish water, suffocating dust, night marches rendered necessary by long stretches and heat, were most excessive.

Here, too, at El Paso, near the city of Parras, was won a glorious victory over the Camanche Indians, by a small handful of our gallant men, led by Captain Reid: 17 Indians bit the dust.

From the outposts of the "southern army," beyond Buena Vista, we reached Camargo, on the Rio del Norte, in nine days—passing through the cities of Saltillo, Monterey, and through Coralvo.

Since the departure of the Missouri column from the *western* border up to our return to our homes by the *eastern* border of our State, we have traversed the full distance of 7500 miles.

No position of equal importance to that of Chihuahua has ever yet been held by the United States in Mexico, nor anywhere by so small a force. One thousand Missourians, occupying Chihuahua, cut off from Mexico, New Mexico, and the two Californias in their rear.

Fearing perpetually to be invaded, the States of Durango and Sonora withheld from the Mexican government all men, military supplies, or financial aid. The ample wealth, resources, mints, cannon, foundries, and *matériel* of Chihuahua were converted to *our* uses.

Thus, then, by this *central* position, were held in check and severed from the enemy three-fifths of the territorial soil of the republic of Mexico, and 500,000 of her population.

This position, too, commands the great and magnificent road which leads down the central table lands, through the capitals of Durango, Zacatecas, Aguas-Calientes, Leon, Guanaxuato, and Queretaro, to the city of Mexico. This route is unobstructed by mountains, and leads to Mexico through an abundant and very healthy region. It is the one by which the traders from Missouri annually visit the great "fair of San Juan" and the city of Mexico.

It appears to me that the column of Missouri is the only one which has made war with effect and obtained from it worthy results. To be sure, our government has thrown them away, as unworthy of notice, and worthless; but this does not lessen *our* merits.

In June, '46, when the Missouri column left Fort Leavenworth, General Taylor's column was at Camargo, ready to march on Mexico by the

route of San Luis Potosi. In June, '47, the Missouri column, *returning by the Gulf*, found General Taylor's advance posts at Buena Vista, ONLY NINE DAYS' MARCH in advance of that same Camargo.

To be sure, Taylor's column had won great victories; but so also had the column of Missouri, against a variety of enemies.

The southern army lay helpless upon an unimportant edge of Mexico, hemmed in by guerrillas—such as we found it, its expenses amounted to $1,000,000 per week. 75,000 American soldiers had been sent in and out of Mexico in a single year in this direction.

The numbers of soldiers had borne a small ratio to those employed in men-of-war, in fleets of transports and steamers, at the depots, and with wagon trains. *Four* months had been consumed advancing from the Del Norte to Monterey, 280 miles. *Five* months from Monterey to Saltillo, 80 miles. *Hence* forward all has been complete stagnation.

The possessions of the southern army are strictly confined to the cities of Monterey and Saltillo. A whole army is consumed in guarding from massacre and destruction the trains passing along the road that connects them with the Del Norte, only 300 miles.

The column of Missouri supported itself from the Mexican purse. After fulfilling its orders completely, by the conquest of the States of New Mexico, Chihuahua, the two Californias, and punishing many Indian nations—closing its onward progress at Chihuahua, we have marched 600 miles from the heart of the Mexican territory, *coming out* to Generals Taylor and Wool.

Finally, one great result is proved by these various campaigns. *It is by the route of the plains and the table lands of Mexico* ONLY, *that the Mexican nation can be conquered and held in subjection by the Americans.*

The configuration of the country, the health, the supplies upon the route, its shortness, and the extraordinary results accomplished by the Missouri column, demonstrate this. The slender means and small cost of our campaign add more strong proofs of this.

Fellow-countrymen and Ladies: The soldiers of *the first* regiment from Missouri, excepting those who sleep forever beneath the shadows of the Sierra Madre, have returned to receive the greetings of their friends and kindred. We bring with us the spoil of the enemy as trophies of our victories.

These assemblies—these crowds of fair women and brave men—these complimentary festivals and flattering words resounding in our ears from every village and from every cabin, are the gratifying rewards of our efforts and our deeds.

Thus are our long-suspended hopes and painful anxieties consummated

by a deep and gratifying sense of triumph. So have we performed our task, and such is our munificent reward.

Suffer me to say,—as one elevated by their own suffrages to an important command among them,—as well to my fellow-soldiers as to those here present who have sons, or brothers, or friends among them, that I found at all times the most admirable discipline: the most prompt and spontaneous obedience—at all times a modest unassuming bravery, which met thirst and cold and starvation and exhausting night marches, with songs and gayety and merriment.

Displayed on the field and in the hour of battle by a quiet anxiety for the charge, and then plunging down upon the enemy with a fiery fury which overwhelmed them with defeat and stung them with despair. These qualities they adorned with moderation after victory, and clemency to the vanquished.

But the career of your soldiers, so happily begun, closes not here. May they not yet devote their young energies to a country which they ardently love, and which thus generously illustrates its love for them?

War has been to our progressive nation the fruitful season of generating new offspring to our confederation.

During the Revolution, little armies, issuing from the Alleghanies, passed over Kentucky, the Northwest Territory, and Tennessee. These new countries had been reconnoitred and admired. With hardy frames, confirmed health, and recruited by a year or two of peace, these soldiers returned to occupy the choice spots which had been their bivouac and camping-grounds. From the campaigns of war grew the settlements of peace, and populous States displaced the wilderness. Another war came with another generation—armies penetrated Michigan, upper Illinois, and into Mississippi. The great Mississippi, crossed at many points, ceased to be a barrier, and the steamboat appeared, plowing its yellow flow. Five great States and 2,000,000 of people emblazon its western bank.

And now, again, have come another generation and another war. Your little armies have scaled the eternal barriers of the "Mother Mountain" of the New World, and, buried for a time in the mazes of its manifold peaks and ridges, have *debouched* at many points upon the briny beach of the Pacific.

Passing round by the great oceans, a military *marine* simultaneously strikes the shore and lends them aid. Thus is the wilderness reconnoitred in war, its geography illustrated, and its conquerors disciplined.

Your soldiers, resting for a time at home, will sally forth again, and, wielding the weapons of husbandry, give to you roads that will nurture commerce and a sisterhood of *maritime States on the new-found ocean.*

We return, then, to the bosom of our glorious State, to bury our bounding hearts in the joys of responsive gratulations. Coming from arid wastes and the unrelieved sterility of mountains and plains, to scan again the verdant fields and mantling forests of our mother-land, which of us all does not apostrophize, with glowing hearts, our native scenes?—Hail to Columbia, land of our birth—hail to her magnificent domain—hail to her generous people—hail to her matrons and her maidens—hail to her victorious soldiers—*all hail* to her *as she is*—hail to the sublime destiny which bears her on through peace and war, to make the limits of the continent her own, and to endure forever!

II.

SPEECH OF COL. WILLIAM GILPIN

ON THE SUBJECT OF THE PACIFIC RAILWAY. FIRST SPOKEN AT THE CAMP OF FIVE THOUSAND CALIFORNIA EMIGRANTS, AT WAKERUSA (NOW THE CITY OF LAWRENCE), KANSAS. REPEATED AT INDEPENDENCE, MISSOURI, AT A MASS MEETING OF THE CITIZENS OF JACKSON COUNTY, HELD NOVEMBER 5, 1849.

It is with profound pleasure, Mr. Chairman, that I address my fellow-citizens here assembled to respond approvingly to the National Convention at St. Louis.

Having shared with the pioneers from Missouri in the original exploration and settlement of Oregon and California—having since been one among those soldiers who carried, during war, our national flag across the Sierra Madre, and planted it upon the waters descending to the Pacific (never thence to recede)—I greet with enthusiastic joy these civic movements of the people to consummate, with the great works of peace, what war and exploration have opened.

Diplomacy and war have brought to us the completion of our territory and peace. From this we advance to the RESULTS. These results are, for the present, the imperial expansion of our republic to the other ocean: fraternity with Asia: and the construction across the centre of our territory, from ocean to ocean, of a great iron pathway, specially national to us, international to the northern continents of America, Asia, and Europe.

In approaching a discussion of a "National Railroad from the Mississippi to the Pacific," infinite in number and variety are the matters which swarm up and demand to array themselves in its advocacy. Thus do I feel embarrassed how to say such things only as are true and sensible in themselves, as well as interesting to my hearers: let me, then, sketch what I may say under the following heads:—

1st. The national character of this work, and its *necessity*.

2d. Its practicability, and the present capacity of the nation.

3d. The time and manner of its construction.

Progress, political liberty, equality. These, the most ancient and cardinal rights of human society, perplexed in the obscurity of military despotism, and almost lost for many centuries, are now struggling throughout

the world to re-establish their pre-eminence. In America they occupy the vantage-ground; for sovereignty resides in the suffrage, and with us it is universal.

Progress, then, in America has the intensity of the whole people, showing itself in forms as infinite as the thoughts of the human mind. But it is to that department of progress which creates for us new States in the wilderness, and expands the area of our Republic, that I here restrict myself. Let us understand *this;* what it is at the present hour—what stimulates—what retards it.

Since 1608 we have grown from nothing to 22,000,000: from a garden-patch, to be thirty States and many Territories! This, with agriculture, manufactures, commerce, power, and happiness, is our progress so far.

The annual yield in money of this agriculture and manufactures is now $2,000,000,000. This commerce vexes all the waters and penetrates to all the nations of the earth. This power, tranquilly complete on our own continent, compels peaceful deference abroad. This happiness, so beneficently felt at home, recruits us with the oppressed of all nations.

But the life of a nation is long. Unlike human life, briefly extinguished in the grave, a nation breathes ever on with the vigor of generations of men daily arriving at maturity, and then departing. A nation has then a *normal* law of growth; and it is this law which every American citizen ought familiarly to understand, for obedience to it is the first duty of patriotism.

Up to the year 1840, the progress whereby twenty-six States and four Territories had been established and peopled, had amounted to a solid strip of *twenty-five miles* in depth, added annually, along the western face of the Union from Canada to the Gulf.

This occupation of wild territory, accumulating outward like the annual rings of our forest trees, proceeds with all the solemnity of a Providential ordinance. It is at this moment sweeping onward to the Pacific with accelerated activity and force, like a deluge of men, rising unabatedly, and daily pushed onward by the hand of God.

It is from the *statistics* accumulated in the bureaux at Washington (the decennial census, sales of public lands, assessments of State and national taxes) that we deduce with certainty the law of this deluge of human beings, which nothing interrupts and no power can stop.

Fronting the Union on every side is a vast *army* of pioneers. This vast body, numbering 500,000 at least, has the movements and obeys the discipline of a perfectly organized military force. It is momentarily recruited by single individuals, families, and, in some instances, communities,

from every village, county, city, and State in the Union, and by emigrants from other nations.

Each man in this moving throng is in force a platoon. He makes a farm upon the outer edge of the settlements, which he occupies for a year, and then sells to the leading files of the mass pressing up to him from behind.

He again advances twenty-five miles, renews his farm, is again overtaken, and again sells. As individuals fall out from the front rank, or fix themselves permanently, others rush from behind, pass to the front, and assail the wilderness in their turn.

Previous to the late war with Mexico, this busy throng was engaged at one point in occupying the peninsula of Florida and lands vacated by emigrant Indian tribes—at another in reaching the copper region of Lake Superior—in absorbing Iowa and Wisconsin.

From this very spot had gone forth a forlorn hope to occupy Oregon and California: Texas was thus annexed: the Indian country pressed upon its flanks; and spy companies reconnoitring New and Old Mexico.

Even then, obeying that mysterious and uncontrollable impulse which drives our nation to its goal, a body of the hardiest race that ever faced varied and unnumbered privations and dangers embarked upon the trail to the Pacific coast, forced their way to the end, encountering and defying dangers and difficulties unparalleled, with a courage and success the like to which the world has not heretofore seen.

Thus, then, *overland* sweeps this tide-wave of population, absorbing in its thundering march the glebe, the savages, and the wild beasts of the wilderness, scaling the mountains and debouching down upon the seaboard.

Upon the high *Atlantic* sea-coast, the pioneer force has thrown itself into ships, and found in the ocean-fisheries food for its creative genius. The whaling fleet is the *marine* force of the pioneer army.

These two forces, by land and sea, have both worked steadily onward to the North Pacific. They now reunite in the harbors of Oregon and California, about to bring into existence upon the Pacific a commercial grandeur identical with that which has followed them upon the Atlantic.

National wars stimulate progress, for they are the consequence of indiscreet opposition and jealousy of its march—and because in these periods of excitement the adventurous brush through the cobweb laws spun by the metaphysics of peace. Then it is that the young *pioneers*, entering the armies of the frontier, rush out and reconnoitre the unpruned wilderness.

During the *Revolution*, little armies, issuing down the Alleghanies,

passed over Kentucky, Tennessee, and the Northwest Territory. These new countries were reconnoitred and admired. With hardy frames, confirmed health, and recruited by a year or two of peace, these soldiers returned to occupy the choice spots which had been their bivouac and camping-grounds.

From the campaigns of war grew the settlements of peace, and populous States displaced the wilderness.

Another war came with another generation. Armies penetrated into Michigan, upper Illinois, and through Mississippi. The great Mississippi River, crossed at many points, ceased to be a barrier, and the steamboat appeared, plowing its yellow flood. *Five* great States, *five* Territories, and *three millions* of people now emblazon its western side!

And now again have come another generation and another war. Your armies have scaled the icy barriers of the "*Mother Mountain*" and the *Andes*. Hid for a time in the mazes of their manifold peaks and ridges, they have issued out at many points upon the beach of the blue Pacific. Passing round by the great oceans, a military *marine* simultaneously strikes the shore and lends them aid. Thus is the wilderness reconnoitred in war, its geography illustrated, and its conquerors disciplined.

Your young soldiers, resting for a moment at home, resuming the civic wreath and weapons of husbandry, have sallied forth again to give to you great roads for commerce and a sisterhood of *maritime* States on the new-found ocean.

Only four years ago, the nation, misled by prejudices artfully instilled into the general mind, regarded the great Western wilds uninhabitable, and the new ocean out of reach. War came: 100,000 soldiers, and as many citizens, went forth, penetrated everywhere, and returned to relate in every open ear the wonderful excellence of the climates and countries they had seen.

Hence have come already these new States, this other seaboard, and the renewed vivacity of progress with which the general heart now palpitates. Will this cease or slacken? Has the pouring forth of the stream from Europe ever ceased since the day of Columbus? Has the grass obliterated the trails down the Alleghanies or across the Mississippi? Rather let him who doubts seat himself upon the bank of our magnificent river and await the running dry of its yellow waters; for sooner shall he see this, than a cessation in the crowd now flowing loose to the *western* seaboard!

Gold is dug: lumber is manufactured: pastoral and arable agriculture grow apace; a marine flashes into existence: commerce resounds: the fisheries are prosecuted: vessels are built: steam pants through all the waters.

Each interest stimulating all the rest, and perpetually creating novel-

ties, a career is commenced to which, as it glances across the Pacific, the human eye assigns no term.

The distance from the top of the *Sierra Madre* (Rocky Mountains), where you leave behind the waters flowing to the Atlantic, is everywhere some 1500 miles. The topographical character of this *ultramontane* region is very grand and characteristic. It is identical with the region at the sources of the La Plata, Amazon, and Magdalena of South America, but more immense.

Sketched by its great outlines, it is simply this: The chain of the Andes, debouching north from the Isthmus, opens like the letter Y into two primary chains (*Cordilleras*).

On the *right* the SIERRA MADRE, trending along the coast of the Mexican Gulf, divides the northern continent almost centrally, forming an unbroken water-shed to Behring's Strait. On the *left*, the ANDES follows the coast of the Pacific, warps around the Gulf of California, and, passing along the coast of California and Oregon (under the name of Sierra Nevada) terminates also near Behring's Strait.

The immense interval between these chains is a succession of *intramontane* basins, *seven* in number, and ranging from south to north. The whole forms the GREAT PLATEAU OF THE TABLE LANDS.

First, is the "Basin of the City of Mexico," receiving the interior drainage of both Cordilleras, which waters, having no outlet to either ocean, are dispersed again by evaporation.

Second, the "Bolson de Mapimi," collecting into the Laguna the streams draining many States, from San Luis Potosi to Coahuila, also without any outflow to either ocean.

Third, the "Basin of the Del Norte," whose vast area feeds the Rio del Norte, the Conchos and Pecos. These, concentrated into the Rio Grande del Norte behind the Sierra Madre, have, by their united volume, burst through its wall and found an outlet towards the Atlantic. The geological character of this basin, its altitude, its configuration and locality, all assign it this position, as distinguishing it from all others contributing their waters to the Atlantic.

Fourth, the "Basin of the Great Colorado of the West." This immense basin embraces *above*, the great rivers Rio Verde and Rio Grande, whose confluent waters, penetrating the mighty Cordillera of the Andes athwart from base to base, discharge themselves into the Gulf of California. Into this sublime gorge (the Cañon of the Colorado) the human eye has never swept, for an interval of 575 miles: so stern a character does Nature assume where such stupendous mountains resist the passage of such mighty rivers.

Fifth, the "Basin of the Great Salt Lake," like the Caspian of Asia, containing many small basins within one great rim, and losing its scattered waters by evaporation, has no outflow to either ocean.

Sixth, the "Basin of the Columbia," lying across the northern flanks of the two last, and grand above them all in position and configuration. Many great rivers, besides the Snake and Upper Columbia, descend from the great arc of the Sierra Madre, where it circles towards the northwest from the 43d to lhe 52d degree, flowing from east to west, and concentrating above the *Cascades* into a single trunk. It here strikes the mighty Cordillera of the Andes (narrowed to one ridge), and disgorges itself through this sublime pass at once into the open Pacific.

It is *here*, descending by the grade of this river the whole distance from the rim of the Valley of the Mississippi and through the Andes to the Pacific, that the great *debouch* of the American continent towards the west is found. *Here* will be the pathway of future generations, as the people of the Old World pass down the Mediterranean and out by Gibraltar.

Above, the "Basin of Frazer River" forms a *seventh* of the TABLE LANDS. This has burst a cañon through the Andes, and like the fourth and sixth basins, sends its waters to the Pacific.

With the geography of the more northern region we are imperfectly acquainted, knowing, however, that from Puget's Sound to Behring's Strait, the wall of the Andes forms the beach itself of the Pacific, whilst the Sierra Madre forms the western rim of the basins of the Saskatchewan of Hudson Bay and the Athabasca of the Arctic Seas.

Thus, then, briefly we arrive at this great cardinal department of the geography of the continent, viz.: THE TABLE LANDS—being a longitudinal section (about two-sevenths of its whole area)—intermediate between the two oceans, but walled off from both, and having but three outlets for its waters, viz., the cañons of the Rio Grande, the Colorado, and the Columbia.

Columnar basalt forms the basement of this whole region, and volcanic action is everywhere prominent. Its general level, ascertained upon the lakes of the different basins, is about 6000 feet above the sea. Rain seldom falls, and timber is rare.

The ranges of mountains which separate the basins are often rugged and capped with perpetual snow, whilst isolated masses of great height elevate themselves from the plains. This whole formation abounds in the *precious metals*. Such is the region of the TABLE LANDS.

Beyond these is the MARITIME region; for the great wall of the Andes, receding from the beach of the Pacific, leaves between itself and the sea a half-valley, as it were, forming the seaboard slope from San Diego to the

Straits of Juan di Fuca. This is 1200 miles in length and 250 broad. Across it descend to the sea a series of fine rivers, ranging from south to north, like the little streams descending from the Alleghanies to the Atlantic.

These are the San Gabriel, the Buenaventura, the San Joakim and Sacramento, the Rogue, Tlameth, and Umqua rivers, the Wallamette and Columbia, the Cowlitz, Chekalis, and Nasqually of Puget Sound.

This resembles and balances the maritime slope of the Atlantic side of the continent: but it is vastly larger superficially: of the highest agricultural excellence: basaltic in formation: grand beyond the powers of description, the snowy points and volcanoes of the Andes being everywhere visible from the sea, whilst its climate is entirely exempt from the frosts of winter.

Such, and so grand, is our continent towards the Pacific. Let us turn our glance towards the Atlantic and Arctic Oceans, and scan the geography in our front. *Four* great valleys appear, each one drained by a river of the first magnitude.

First. The Mississippi Valley, greatest in magnitude, and embracing the heart and splendor of the continent, gathers the waters of 1,500,000 square miles and sheds them into the Gulf of Mexico.

2d. The St. Lawrence, whose river flows into the North Atlantic.

3d. The Nelson and Severn Rivers, into Hudson Bay.

4th. The great valley of the McKensie River, rushing north into the *Hyperborean Sea.*

These valleys, everywhere *calcareous*, have a uniform surface, gently rolling, but destitute of mountains, and pass into one another by *dividing ridges*, which distribute its own waters into each, but whose superior elevation is only distinguishable among the general undulations, by the water-sheds which they form.

Around the whole continent, following the coasts of the oceans, runs a rim of mountains, giving the idea of a *vast amphitheatre.* Through this rim penetrate towards the south, east, and north, the above great rivers *only*, forming at their debouches the natural *doors of the interior;* but no stream penetrates *west* through the Sierra Madre, which forms an unbroken water-shed from Magellan's to Behring's Strait.

Thus we find more than *three-fifths* of our continent to consist of a limitless plain, intersected by countless navigable streams, flowing everywhere *from* the circumference towards common centres: grouped in close proximity: and only divided by what connects them into one homogeneous plan.

To the American people, then, belongs this vast interior space, covered

over its uniform surface of 2,300,000 square miles, with the richest *calcareous* soil: touching the snows towards the north, and the torrid heats towards the south: bound together by an infinite internal navigation: of a temperate climate: and constituting, in the whole, the most magnificent dwelling-place marked out by God for man's abode.

As the complete beneficence of the Almighty has thus given to us, the owners of the continent, the great natural outlets of the Mississippi to the Gulf, and the St. Lawrence to the North Atlantic, so is it left to a pious and grateful people, appreciating this goodness, to construct through the gorge of the Sierra Madre, a great artificial monument, an iron path, a NATIONAL Railway to the *Western* Sea.

Here we perceive, in the formation of the American continent, a sublime simplicity, a complete economy of arrangement, singular to itself, and the reverse of what distinguishes the ancient world. To understand this, let us compare them.

EUROPE, the smallest of the grand divisions of the *land*, contains in its centre, the icy masses of the Alps; from around their declivities *radiate* the large rivers of that continent: the Danube directly east to the Euxine; the Po and Rhone, south to the Mediterranean; the Rhine to the Northern Ocean.

Walled off by the Pyrenees and Carpathians, divergent and isolated, are the Tagus, the Elbe, and other single rivers, affluents of the Baltic, the Atlantic, the Mediterranean, and the Euxine.

Descending *from* common radiant points, and diverging every way from one another, no intercommunication exists between the rivers of Europe: navigation is petty and feeble: nor have art and commerce, during many centuries, united so many small valleys, remotely isolated by impenetrable barriers.

Hence upon each river dwells a distinct people, differing from all the rest in race, language, habits, and interests. Though often politically amalgamated by conquest, they again relapse into fragments, from innate *geographical incoherence*. The history of these nations is a story of perpetual war and mutual extermination.

Exactly similar to Europe, though grander in size and population, is ASIA. From the stupendous central barrier of the Himalayas run the four great rivers of China, due *east*, to discharge themselves beneath the rising sun: towards the south run the rivers of Cochin China, the Ganges and the Indus: towards the *west* the rivers of the Caspian: and north, through Siberia to the Arctic Seas, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya Mountains have proved insuperable barriers to the amalgamation of the nations

around their bases, and dwelling in the valleys which radiate from their slopes.

The continent of AFRICA, as far as we know the details of its surface, is, even more than these, split into disjointed fragments.

Thus the continents of the Old World resemble a bowl placed bottom upwards, which scatters everything poured upon it, whilst NORTHERN AMERICA, right side up, receives and gathers towards its centre whatever falls within its rim!

Behold, then, the FUTURE of America, graven, in the geographical lines and arteries of her symmetrical, ocean-bound expanse! Behold it *foretold* in the oracular prophecies of past and present progress.

In geography the *antithesis* of the Old World, in society it will be the reverse. *Our* North America will rapidly attain to a population equalling that of the rest of the world combined: forming a single people, identical in manners, language, customs, and impulses: preserving the same civilization, the same religion: imbued with the same opinions, and having the same political liberties.

Of this we have two illustrations now under our eye: the one passing away, the other advancing. The aboriginal Indian race, among whom, from Darien to the Esquimaux, and from Florida to Vancouver's Island, exists a perfect identity in their hair, complexion, features, stature, and language. And *second*, in the instinctive fusion into one language and one new race, of immigrant Germans, English, French, and Spanish, whose individuality is obliterated in a single generation!

At this moment, the *maritime policy*, planned with dark genius, and pursued with scrupulous selfishness, palls our march. Nothing behind us in history at all rivals in rapidity of growth, in wealth, power, and splendor, those States masking the seaboard, and called at home "*the Old Thirteen.*"

Here are cities (and a great number of them) surpassing, at one century old, those of a thousand years upon the old continents!

The States have swelled as fast. This admirable greatness is due to the mastery of the continent which they exercise by majorities in the national councils, to the immense income of revenue which they thus *collect* and use, and to their monopoly of all foreign commerce.

A new and rival seaboard—"*a New Thirteen*"—would halve and distribute all of these. It was *foreseen* how progress, travelling *centrally* across the continent, was striding point-blank to this consummation. To retard this, indefinitely, arose the *maritime policy*, invented by sophistry, and sustained by metaphysics.

Mr. Jefferson having, with consummate prescience, added to our domain the Louisiana purchase: the most splendid portion of the habitable globe:

hastened to give it population and a maritime wing to the Pacific. Explorations under Clarke and Lewis, and others, followed by Astor's enterprise, opened, *forty years* ago, the great commercial route between the oceans, since shut up by the *maritime policy*, but now reopened.

These were checked and overthrown by the exigencies of foreign war. That over, the discussion of a route to Asia was revived by the press and in Congress: Astor sought to renew his enterprises, and aid was demanded from the government by the people of the West, and by patriotic individuals in the East. This was refused by the policy of President Monroe's administration, in whose cabinet were conjoined Messrs. J. Q. Adams, of Massachusetts, and J. C. Calhoun, of South Carolina—subtle statesmen of the most penetrating foresight and the loftiest ambition.

Power emigrates as time rolls on. The pride and fascination of its possession linger supremely potent in the human heart. From this profound source has sprung the unequitable *maritime policy*, arrayed against the march of progress and the westward migration of power.

The *former* State, Massachusetts, had proclaimed a national war unconstitutional, and initiated at Hartford the preparatory plans to secede from and dissolve the Union. The *latter*, South Carolina, has done the same, pronouncing the general power of taxation unconstitutional in a particular form; and now again appear the same dreadful threats of "force and terror," pronouncing *unconstitutional* a specific legislation for the Territories.

Behind this gorgon of alarm (*Nullification*), and unperceived by the general mind, lashed into dismay and distracted by "terror and force," threatening the Union, the subtle *maritime policy* has been riveted down. Within the young States, the public glebe has been held by the central government and withheld from taxation. Thus is State revenue cut off.

These public lands are held at a tyrannical price, the sales made cash, donations of homestead rights, pre-emption, and graduation refused. Savages, ejected from the older States, have been bought up and planted as a wall along the western frontier and across the line of progress. These are metaphysically called foreign nations.

Recently there has been given to the soldiers of the nation a bounty of $100 in money, or $200 in land. This is legislative declaration that the price is 100 per cent. above their highest value.

The revenue raised from the customs is collected at the seaports, where the expenses of collection are disbursed. The heavy part of this revenue is paid by the agriculturists of the West, who are the consumers. $3,000,000 annually of direct land revenue is exclusively paid by these latter.

But where is this splendid income of $40,000,000, thus levied for the

most part from Western industry, expended? To the navy is devoted $9,000,000 (all upon the tide-waters of the seaboard). To the civil list $5,000,000—all *there* also. To *seaboard* improvements, viz.: custom-houses, mints, harbors, breakwaters, fortifications, navy-yards, light-houses, coast survey, post-offices, armories, etc., $2,500,000. All this too is upon the *tide-water*.

To the army $5,000,000—this is expended on a military academy, ordnance foundries, four artillery regiments, engineers—*all* upon the *seaboard*. True it is that a few stingy details of cavalry and infantry are posted in shanties upon the Western frontier, and a largess of half a million sowed among the Indians. But the single fortress of "Old Point Comfort" has cost more than the sum total of Western military structures.

Thus do we come at one cardinal item of *maritime* power—$40,000,000 collected annually from thirty States, of which $39,000,000 is annually paid out to *thirteen only!* Such is the *income* which *maritime policy* secures to itself by taxation.

Further, the foreign exports and imports amount to $350,000,000 per annum—every pound of this leaves our shores or comes to us in the ships of these *maritime States*, and is stored at their seaports. To them, then, belongs the complete and prodigious monopoly of the carrying trade of America!

Is it wonderful, then, that a policy should have been projected with foresight and pursued with obstinate will, to preserve to its possessors an income so splendid, and a monopoly of such infinite profit? With these *maritime* States, too, rests the political mastery of the continent: because they have as yet always had the majority of the Houses of Congress, and still retain that in the House of Representatives, in spite of the accession of Texas, Iowa, and Wisconsin, which have changed the Senate.

It is the decennial census of 1850 which will give in the thirty-third Congress a majority to this great indigenous American people, residing within the mountains, in the great basins of the continent. To them will belong the glorious task to give to the public domain its true, patriotic use, and root out the scorching tyranny, of which it is now the engine.

To make taxation and the expenditures of revenue national and equal among the States and people. To pay, not grind, the pioneers. To reverse the uses of the national wilderness, so that its glebe shall be the beneficent fountain of great roads, unlimited agriculture, population, commerce, and rich States. *To give us maritime rivalry, and a new seaboard.* To reconcile the white man and the Indian, now kept by infamous laws in a state of implacable feuds and mutual piracy.

It is very wicked that our government, being republican, has ravished

republican liberty and rights from the Indian, and re-enacted for his race all the odious inequalities and oppressions of *feudality*.

The set purpose of *maritime policy* to crush progress developed itself with the admission into the Union of Missouri, a State beyond the Mississippi, and *salient* upon the routes and rivers towards the Pacific.

A wall of Indians was planted along the frontier from the Missouri to the Red River. These *foreign nations!* were planted upon soil which they could not sell. Commerce was prohibited, and the white man forbidden entrance under penitentiary imprisonment. The army, its duties reversed, was withdrawn from danger, and planted on the line to bayonet back the pioneers.

By these nefarious sophistries it was designed to fence across the *pioneer army in front*. Hush-money to the amount of $85,000,000 was paid to get these Indians out of the older States for the use of the frontier. In combination with this it was necessary to gain a *maritime* extension, and the national purse was opened. A couple of thousand Indians were discovered in the pocket of East Florida—the Seminoles and Mickasukies.

Ten years of terrible war, during which 100,000 military emigrants and $45,000,000 had supplied the material of a State to balance Michigan, brought about a treaty allowing those tribes to remain among the Everglades! During this time Indian piracies swarmed over the *Great Plains* and upon the commercial roads to Mexico and the mountains. Many hundred whites and innumerable Indians fell beneath the tomahawk. Protection, military police, and revenge were denied at Washington. Not a dollar was *here* disposable, for these terrors of the wilderness helped the policy which kept it so.

The *reannexation* of Texas was consummated. This was a *maritime* State, extending the shell of maritime influence farther round the continent. Texas owed debts—some $7,000,000. Her public lands were speciously left to her to pay them—208,000,000 of acres, by valuation $260,000,000, to pay $7,000,000 of debts!

Is it, then, by chance or by design that the great domain is to one State the source of imperial revenues and advancement, to another of poverty and repression? Express laws of Congress produce these extremes.

To understand this rightly, let us examine it. The soil of Missouri is held, until sold, at $1.25 per acre by the central government. At present $600,000 per annum is extracted in specie through the land offices. Thus are we impoverished. Two-thirds of our soil is withheld from State taxation. As real estate is the substantial source of State revenue, no public

enterprises, no geological surveys, no internal improvements, not even highways and bridges, are possible in Missouri.

Our insignificant State and county revenues fall with onerous weight upon less than one-third of the glebe lands, upon personal property, and licenses. The disastrous wreck suffered by Mississippi, Illinois, and other new States is proof enough of this.

How is this reversed in Texas? An immense domain fills her treasury —she taxes and sells for taxes at will—unlimited credit and resources invite her to construct the greatest works, without danger. By reducing and graduating the price of lands, she invites forth the agriculturists of our States, and warps progress towards the Gulf. On the pledge of her public lands she may herself alone procure means to construct a railroad to the Pacific! Across the western frontier is unobstructed access to the 8,000,000 of Mexicans! *Western* commerce, then, walled in and made piracy in Missouri, crushed and persecuted, must migrate hence to Texas.

Again, war with Mexico arose. This was a land war of armies, between nations having a common frontier of many thousand miles. A single American army of 30,000 cavalry and flying artillery, marching by the magnificent road from Fort Leavenworth, passing by the great table lands to the city of Mexico, and subsisting their animals of food and transportation upon the pastures, would have conquered and held all the Mexican States in eighteen months.

Forty millions of expenditure would have brought peace on our own dictation—great roads for commerce would have been established forever, and the disbursements returned to us in the ceded territory. A war thus *economically* conducted, however, would have opened the avenue and planted central States to the new seaboard.

But fleets of transports must plow the Gulf, and the maritime States of *Jacinto* and *Sierra Madre* extend to embrace Tampico. One hundred thousand soldiers were sent to the impracticable entrance by Saltillo and Potosi—one hundred millions expended upon this army, which, stagnating upon the waters of the Rio Grande, never passed beyond them; for Saltillo is upon an affluent of the Rio Grande, and only 250 miles from its main bank. Thus was profligately re-enacted the drama of the State of Florida.

The *maritime policy* blends the double object of blocking up the interior, and extending the seaboard in a shell around the continent. For this the navy is enormously increased and the army emasculated. Enterprises in the *central* States are marred, but those of the *seaboard* sustained directly from the National Treasury. Of this let us take a recent illustration.

A proposition was submitted to the Twenty-ninth Congress, early in its first session (1845–46) to carry onward to the coast of California and Oregon, and to Santa Fe, *monthly*, the mail which comes tri-weekly to our city of Independence.

A law authorizing the Postmaster-General to let the contract for such an extended mail-route to the lowest bidder, in the ordinary way, was *alone* required. Contractors were ready to execute the whole undertaking for $50,000 per annum, carrying the mails in *fifteen days*, making the time from ocean to ocean *twenty-five* days.

This proposition, admirable for its practicability, its economy in time and cost, was belabored by orators and suppressed. To this hour all overland mails are prohibited by statute.

At this same session of this same Congress, and under the promptings of these orators, the government was, by statute, made the partner with ship-building companies of New York City. To construct four mail steamers, the sum of $1,250,000 was *advanced* to these companies, to whom was also given the monopoly of future government transportation for *ten* years.

The transportation of *our* mails through the Isthmus is confided to the *Spaniards* of New Granada! All this enormous expenditure has produced at the end of four years, an uncertain monthly mail, *outside* of our country: and exposed to the hostilities of the whole world: which traverses 9000 miles of *sterile* ocean in fifty days! In the interval the contracts have been doubled in amount by doubling the size and cost of the ships. It is a condition of these contracts that these "mail steamers" may be appraised and purchased by government for the navy. Thus is the navy *clandestinely* increased by eight or a dozen war steamers.

Thus, whilst we may transport the domestic mails between our distant people and seaboards through the heart of our territories, every inch upon our own soil, and 1000 miles from any foreign foe or frontier—whilst this can be done and is offered to be done, by our citizens, for prices at which the mails will yield remunerating revenues—whilst this admits of an increase to daily mails at any time, and a reduction of time to one-half—whilst this allows of innumerable way mails, telegraphs, and the most intimate domestic intercourse—involves neither increase of military force nor expenditures by sea or land, and avoids the possibility of foreign interference or molestation—opening roads and crowding these with population and settlements—concentrating to the seaport where it reaches the Pacific, the American shipping and business on that ocean, at once creating a great American emporium.

Instead of all this, which is [illegible] and understood by our

people, whose *cardinal right* it is to have the circulation of their domestic thoughts and business through home channels which are short, safe, and expeditious! Yes, instead of this, we are taxed millions, to have our letters sent 9000 miles in fifty days, under the equator, by sea, through foreign nations: exposed to delay, dangers, and destruction in every form, ruffling the jealousies of rival nations, and exposed to their cannon—and all this to fill the maws of maritime speculators and political ambition.

Such are a few examples of a policy hourly influencing our glorious State for weal or woe, whose effect upon you, my fellow-citizens, fills me with the most puzzling astonishment. You drop your own interests with facility when *told* they are difficult and inexpedient, and stand at ease, whilst rival enterprises, planned to destroy you, and a thousand times more difficult, costly, and fanciful, are finished completely!

Mr. Chairman, eloquence is not nurtured in the depths of the silent wilderness, and *there* have I passed my youth. Did I possess those graces of language and polished elocution, which many youths, my cotemporaries, trained in the courts and halls of legislation, ought to do, then should my voice sound, like the *rappel* beat on John de Zitska's skin, into every cabin of our glorious State; to call forth her citizens, and, roused from their ignoble apathy, animate them to resume their stolen rights and vindicate their crippled honor. For this apathy is, towards this our State and our nation, the crime of the sentinel slumbering on his post.

The configuration of the Sierra Madre (*the Mother Mountain of the world*) is transcendently massive and sublime. Rising from a basement whose roots spread out two thousand miles and more: its crest splits almost centrally the Northern continent, and divides its waters to the two oceans.

Novel terms have been introduced to define its characteristics. *Mesa*, expresses the level plateaux of its summits. *Cañon*, the gorges rent in its slopes by the descending rivers. *Bute*, the conical mountains isolated and trimmed into symmetrical peaks by atmospheric corrosion.

Everybody has seen the card-houses built by children in the nursery. Suppose *three* of these in a row, having a second story over the centre: this toy familiarly delineates a transverse section of the Sierra Madre. This upper story represents the central, primary *mesa* of the Cordillera—its summit a great plain, descending on both flanks by a perpendicular wall of 6000 feet to the level of the *second mesa* or steppe.

Towards the *west* the second mesa fills the whole space to the Andes, whose farther side descends abruptly to the tide-level of the Pacific. This is again what has been before described at length as the GREAT TABLE

LANDS. But towards the *east*, the second *mesa* forms a piedmont, rent into peaks by the fissures of innumerable streams.

This piedmont, called by us the Black Hills, masks the front of the Sierra Madre, from end to end. So completely is it torn and rent by the perplexity of water-courses, that patches alone are left to define the original plateau. These are the eastern envelope of the basin of the Yellowstone, the Laramie plain (between the Plattes), the Ratone, and the Llano Estacado of Texas.

Beneath this the *third mesa* (or steppe), is that superlative region, the GREAT PRAIRIE PLAINS, whose gentle slope forms a glacis to the Gulf through Texas: and in front to the trough formed by the Mississippi River from Itasca Lake to the Balize. Neither are the other three basins of the St. Lawrence, Hudson Bay, and Athabasca anything else but prolongations of this same *glacis*, sloping towards the east and north.

It is this vastness of geographical configuration which leads the *glance* of the engineer with unerring certainty to that line of natural grades from ocean to ocean, the discovery of which mankind now awaits with the keenest curiosity, and along which the American nation is resolved to construct the consummate work of art—*the Asiatic and European Railway*.

Advancing north along the comb of the Sierra Madre from below Mexico, you find at the sources of the Platte (Sweetwater) a wide gap, where, the high mesa suddenly giving out for the space of forty miles. the second mesa passes through from east to west, the continued water-ridge being scarcely perceptible among its gentle undulations.

This is the SOUTH PASS. It is so named as being the *most southern* pass to which you may ascend by an affluent of the Atlantic and step immediately over on to a stream descending directly to the Pacific. This name is as ancient as the pass itself.

Into it concentrate the great trails of the buffalo, geographers and road makers by instinct, before the coming of man. The Indian, the Mexican, and the American, successors of one another, have not improved or deflected from the instincts of the buffalo, nor will they whilst the mountains last in their present unshattered bulk.

The South Pass has a towering grandeur, in keeping with the rivers between which it is the avenue (the Missouri, the Colorado, and the Columbia), all of which, issuing from the wall of the Wind River Mountain, come out of it on to the second mesa, *at the same level*, and into which they immediately commence burrowing their cañons of descent to the seas.

Here, *then*, is the route, the *Southern* route, of the National Railroad, ascending by the water-grade of the Platte on to the top of the second

mesa, where it forms the summit, following the level of this mesa along the base of the high mesa, to the Columbia (Snake River), and descending its water-grade clear out to the Pacific.

The distance from the Platte to the Columbia has not been accurately ascertained, though by the present wagon road, which crosses a corner of the Salt Basin, it is less than 300 miles. Here is that double inclined plane, to find which has been the first essential in every work of art existing in the world.

There is none *south* of this, because everywhere the basins of the Table Lands overlap and envelop one another, so that the passes lead merely from one of these into another: nor are there any natural tunnels through the precipitous walls of the Andes, and between the basins.

The Columbia, running across the Table Lands from east to west, distributes the descent of 8500 feet, equally along its course of 1200 miles, and tunnels the great ranges of Blue Mountains and the Andes. This whole course of the river is a continuity of rapids having three falls—the American Falls of 30 feet at Portneuf, the Salmon Falls of 45 feet, 200 miles below, and the Chuttes of 12 feet, near the Dalles.

This river-grade is then as rapid as the descent to be accomplished will admit of; for, distributed into long levels and steep grades, it would immensely impair the utility of the whole work, and fatally impede transportation.

The great Colorado runs diagonally across the TABLE LANDS, debouching into the Gulf of California; but has its course and those of its great affluents, parallel with the mountain ranges, which are scored with unfathomed cañons, perplexing the traveller with an infinity of impassable ridges, among which the water-courses are embowelled.

North of the South Pass, however, exist many single passes where the higher branches of the Missouri and Columbia interlock. These circuitous routes have all the same termini as that of the South Pass, for they also descend the same two rivers to the seas. Thus between the South Pass and the Isthmus of Tehuantepec there exists no railroad route, owing to the longitudinal courses of the rivers, the complexity of the basins, and the double barrier of primary mountain chains.

To the north, other passes exist, which future generations may develop, and on which navigation may be used for four-fifths of the whole distance. True it is that potential fashion now exalts the little maritime basin of California, San Francisco Bay, into the haven of hope and fortune of the new seaboard, whilst the sublime basin of the Columbia, and its magnificent *river harbor*, are banished from public favor.

The basin of San Francisco is small, tropical in climate, sterile, and the

most isolated spot, to reach from the interior, on the whole coast of the Pacific. No great river gives it access to the Mississippi Valley, from which it is cut off by the basins of the Salt Lake, the Colorado, and the Del Norte, overlapping each other.

The Columbia is larger than the Danube, and equal to the Ganges. In size, climate, agricultural excellence, capacity for population, and its wonderful circular configuration, the basin of the Columbia surpasses both of these others.

The mouth of the Columbia, a *salient* point upon the open coast, more than any other central and convenient to the whole North Pacific and Asia, is in size, depth of water, safety and facility of ingress or egress, equal to San Francisco. As the mouth of the greatest river descending from our continent into the Pacific, it is infinitely before it. It is eight degrees south of Liverpool, having the climate of Bordeaux, Marseilles, or Savannah.

Why is not the deep sea navigation concentrated at Norfolk or Hampton Roads, the finest harbor of the whole Atlantic? Why rather is it found at New York and New Orleans, accessible only through every danger that can menace shipping? Why, because the former is the outlet of the basin of the St. Lawrence, the latter of the Mississippi. The shipping of commerce goes to where cargoes can be found.

Less than fifty years ago, *fashion* pronounced the little ravines of James River and the Connecticut the proud spots of America, and held the great uninhabitable wastes of the Mississippi and its *unnavigated* streams as worthy only to balance *codfish!* This same splenetic spirit of *fashion* now manufactures a similarly ridiculous misdirection for the energy of the pioneers, by setting up what the geologist would call a "pot-hole of the Andes," against the grand Columbia.

Commerce, provident like every other department of industry, makes herself harbors with charts, pilots, buoys, and beacons. The shallowest channel of the Columbia has thirty-five feet water—the deepest of New York, twenty-nine.

Climate distinctly controls the migrations of the human race, which has steadily adhered to an *isothermal* line around the world. The extremely mild climate of our Western seaboard is only the consequence of the same great laws of nature which operate in Western Europe. These are the regular and fixed ordinances of the code of nature, to which the migrations of man, in common with the animal, yield an instinctive obedience. Within the torrid zone and up to 30° of the Northern hemisphere, blow the *trade winds* and *variables*, constantly from the east and northeast all around the world; but the upper halves of elliptical orbits followed by the

winds lie in the temperate zone, from 35° to 60°, within which the winds flow constantly from the west and southwest all around the world.

These winds reach the *western* coasts of America and Europe after traversing the expanse of the Pacific and Atlantic Oceans. Warmed to the same temperature as these oceans, they impart again this same mild atmosphere to the maritime fronts of the continents which receive them. These same winds, passing onward over great extensions of continent of low temperature, covered with snow, or frozen during winter, often warped upward by mountain ranges, becoming exhausted of their warmth, have upon the eastern portions of both hemispheres an exactly opposite effect upon the climate.

Hence the variant temperature of New York and Lisbon, which face one another on the opposite coasts of the Atlantic—of Pekin and San Francisco, similarly opposite upon the Pacific. At San Francisco and Lisbon the seasons are but modulations of one continuous summer. At New York and Pekin, winter suspends vegetation during seven months, whilst ice and snow bridge the land and waters. These four cities are all close upon the same parallel of latitude, the 40th degree.

It is here manifest how in Asia the masses of population lie *below* the 40th degree, in Europe *above*, and again (so far) in America, curving downward on the eastern face of our continent, to rise again to the north upon the warm coast of the Pacific.

Thus has the zodiac of nations, our own nation similarly with the rest, pursued a serpentine line of *equal temperature*, retaining all around the world similar employments, similar industrial pursuits, similar food and clothing, requiring similarity of climate, and recoiling alike from the torrid and the arctic zones.

The *scientific men* of the nation oppose the National Railroad—so did those of Europe persecute Galileo and Columbus. Science, like the army and navy, is fed from the national revenues, which *maritime* policy distributes to all that serve its ends. Science is rare; the spurious quackery of science redundant. It is not the scientific doctors of the schools, the bureaux and military wings of government, that have hewed out this republican empire from the wilderness.

This has been reared by the genuine heroism and sublime instincts of the *pioneer army*, unpaid, unblessed, nay, scoffed and loaded with burdens by government and its swarm of dependents. To bridle PROGRESS has been the policy of thirty years. To keep the people out of the wilderness. To refuse Territorial governments, and prevent Territories from becoming States.

At this moment *scientific* men are especially busy distracting us with

multitudinous routes and invented difficulties: devised to perplex and scatter the energies of the citizens: whose unanimous resolve it is to plow open a great central trail to the Pacific.

Science cannot unmake the eternal ordinances of nature, and reset the universe to suit local fancies and idle fashion. It is the humble duty of science to investigate nature *as she is*, and promulgate the truths discoverable for the guidance of governments and men.

The experience gained from the great works constructed by the last generation, in digging through the Alleghanies routes for commerce to the Atlantic, settles for us the rules that shall guide *us* across the Sierra Madre to the Pacific.

In 1818 the State of New York cut through the low and narrow ridge between Rome and Syracuse, the former on an affluent of the Hudson, the latter of Lake Ontario. Thus the *first* expenditures, perforating the dividing mountain, let through that infant commerce, which in thirty years has grown to such a grandeur of quantity and profit, that this great thoroughfare is itself quadrupled in capacity and lengthened out to Montreal, to Boston, to New York City, and into Pennsylvania, towards the east.

Westward, it reaches through Ohio and Indiana to the Ohio River: and by the Illinois and Wisconsin Rivers to the Missouri and Mississippi.

What the single State of New York, of 1,200,000 population, accomplished by her own intrinsic bravery and resources, undismayed by ridicule and unappalled by the *then* experimental character of such works in a *republic* and upon our *continent:*—just such a work now invites the national bravery, power, and wealth of this *imperial republic:* namely, to lay, over the dividing barrier of the Sierra Madre, along the floor of its natural tunnel at the South Pass, *an iron pathway:* which, descending the grades of the Platte and Columbia to the highest points of navigation, shall let through the first infant stream of that supreme *Oriental* commerce, whose annually expanding flood will, during our generation, elongate its arms and fingers through all the States and to every harbor of the two seaboards!

Climate: the configuration of the continent: the location of our States and people: *the isothermal line of progress:* the high latitudes of the ultra-oceanic nations *here* locate the "National Railroad." The *climate* is here most favorable: because the whole region from the Missouri to the Columbia, far removed from any ocean, is so dry as to be free from rains in summer and *snows in winter.*

Thus the snows within the South Pass itself are not so deep as upon the St. Lawrence, or between Boston and Buffalo. Upon the Wind River

Mountain there is no snow in summer, at an altitude where it is perpetual on the Andes beneath the equator and near the ocean!

On the Table Lands rain and snow are so rare that they may be said never to occur. This obstruction, then, stated on theory to be fatal, has no existence—whilst this route, pursuing great rivers all the way, has abundance of water. Mineral coal is abundant from end to end. Lumber and rock infinite in quantity and convenient in position.

It is, then, I repeat, through the heart of our Territories, our population, our States, our farms and habitations, that we need this broad current of commerce. Where passengers and cargo may, at any time or place, embark upon or leave the vehicles of transportation.

It is foul treason to banish it from the land: from among the people: to force it on to the barren ocean: outside of society: through foreign nations: into the torrid heats and along solitary circuitous routes, imprisoned for months in great ships.

This central railroad is an essential domestic institution: more powerful and permanent than law, or popular consent: to thoroughly complete the great systems of fluvial arteries which fraternize us into one people: to bind the two seaboards to this one nation, like ears to the human head: to radicate the foundations of the UNION so broad and deep, and render its structure so solid, that no possible force or stratagem can shake its permanence: and to secure such scope and space to progress, that prosperity and equality shall never be impaired or chafe for want of room.

What, sirs, are these populous empires of Japan and China, now become our neighbors? They are the most ancient, the most highly civilized, the most polished of the earth.

It was from Sinim (China) that the Judean king Solomon imported the architects, the mechanics, the furniture of his gorgeous temple. *Hence*, the Tyrians brought tapestry, carpets, shawls of wool, cotton and silk fabrics, wares of porcelain and metals, dyes, gums, and spices, jewels polished and set.

Hence, came the climax of all human inventions, *letters and figures*, which fix language and numbers, making them eternal: astronomy, arithmetic, algebra, decimals, chemistry, printing, navigation, agriculture, and horticulture.

All these, erroneously ascribed as the inventions of the Arabs or to the exiles of Constantinople, who brought them into Western Europe, are the *creations* of Oriental genius and study.

Tea, sugar: the peach produced from the wild almond: the orange from the sour lime: the apple from the crab: the fruits: the flowers: the vegetables of our gardens, are the *creations* of Chinese *horticultural* science.

The horse, cattle, the swine and poultry of our farms, come to us from thence. The culture of the cereal grains, wheat, rice, barley bread, wine, the olive and silk, have come to us from the farthest Orient. *Hence* also came gunpowder, the magnetic needle, and calomel. The paints, varnish, and tools of the art have come, and the remedies used in pharmacy.

Our historic records, *commencing* with the arrival of progressive civilization at the extremity of the Mediterranean, relate from tradition the antique empire of Bacchus and the religion of Zoroaster upon the Ganges and the Indus. The Chaldeans of the Persian Sea followed. Fleets came from the extreme *Orient* into the Bengal Sea, the Persian Gulf, and the Red Sea; and caravans overland by the Oxus and the Caspian brought the camel, the horse, cattle, manufactured wool, silks, cotton, and metals, agriculture, commerce, and coin.

Empires expanding westward along the Ganges, the Euphrates, and the Nile, reached to the Mediterranean and Euxine. From Egypt, Phœnicia, and Colchis (Trebisond), sprang European Greece.

Such as *Progress* is to-day, the same has it been for ten thousand years. It is the stream of the human race flowing from the *east* to *the west*, impelled by the same divine instinct that pervades creation. By this track comes the sun diurnally to cheer the world. Thus come the tides of men and of the waters: learning: law: religion: the plague: the smallpox: and the cholera. The sources of life and happiness—the pestilence that saddens both.

These empires of which we have spoken have left upon the ground they occupied their names, political society, their organized systems of government and religion. Does not society, then, once founded become perennial? It is within a belt of the earth straddling the 40th degree of north latitude that the greatest mass of land surrounds the world, and where the continents most nearly approach.

Within this belt (from 30° to 50°) four-fifths of the human race is assembled, and here the civilized nations, of whom we possess any history, have succeeded one another, commencing at the farthest extremity of Asia, and forming a *zodiac* towards the setting sun.

This succession has flowed onward in an even course, undulating along an isothermal line, until in our time the ring is about to close around the earth's circumference, by the arrival of the American nation on the coast of the Pacific, which looks over on to Asia.

In this age and in this march of human race, as elsewhere: the bold, energetic, and indomitable: the picked spirits of the world lead the van; and such is the *pioneer army*.

What means that expression in the Declaration of Independence, "life,

liberty, and *the pursuit of happiness*" ? What brought the Cavaliers to Virginia in 1608? It was "the pursuit of happiness." What animated the Pilgrims to endure the rigors of Plymouth Rock? Why, "the pursuit of happiness." What sought Boone and his companions plunging a thousand miles into the wilderness? This same "pursuit of happiness." What secret motive now brings foreigners to our shores, and impels our own citizens onward to the Pacific? Again, it is "the pursuit of happiness."

Progress, then, is one of the immortal RIGHTS sanctified in the Charter of human liberty. Why, then, is advent into the wilderness—the field for the discontented, the oppressed, the needy, the restless, the ambitious, and the virtuous, thus closed by a policy at once sinister, nefarious, and unconstitutional?

Unquiet for our sacred Union is this present time, when political power, about to cross the Alleghanies, see-saws on their crests, counting the days that precede her eternal transit over them!

It is by the rapid propagation of new States: the immediate occupation of the broad platform of the continent: the aggregation of the Pacific Ocean and Asiatic commerce: that inquietude will be swallowed up, and the murmurs of discontent lost in the onward sound of advancement. Discontent, distanced, will die out.

The immense wants of the Pacific will draw off, over the Western outlets, the over-teeming crops of the Mississippi Valley. Thus will the present seaboard States resume again their once profitable monopoly of the European market, relieved from the competition of the interior States.

The cotton and rice culture of Georgia and the Carolinas will revive. The tobacco of Virginia and Maryland will again alone reach Europe. Ships withdrawn from the Northern States to the Pacific, will regenerate the noble business of nautical construction in New England and New York.

The established domestic manufactures of clothing and metals will find, in our great home extension, that protection which they in vain seek to create by unequal legislation, nocuous and impracticable in our present incomplete and unbalanced geographical form.

Thus calmly weighed and liberally appreciated, does this great Central Railroad minister to the interests and invite the advocacy and co-operation of every section of our territory, and every citizen of our common country.

The exclusion of foreigners from Japan, China, and Cochin China is not then an institution of barbarism, but a domestic tariff of protection.

It is designed, like the combination of Christian nations against piracy, to protect their nationality and freedom against those fierce military nations of NORTHMEN, who for twenty centuries have rent Europe and Western Asia with perpetual massacre: who ransack all the seas in their war-ships: store the rocks of the ocean with munitions of war: crush the millions of India with cannon and the bayonet: plunder Africa of a million annually of her swarthy children to rot in foreign slavery: and even exterminate one another in deadly strife when they meet among the antipodes, in the solitudes of the Southern Ocean.

When, however, *our* diplomacy shall receive a wise direction—when *our* foolish nepotism to Europe shall be run out—when men of sense, such as Franklin was of old, shall sail over from Astoria to Pekin, and there converse, with the *Oriental Court*, of Republican America as she is—when her civic growth and pacific policy shall be there understood—when the central position of our continent shall be known: forming the avenue for trade and barrier against war with the Northmen of Europe—then will mutual confidence between these, the oldest and youngest of the human family, *the extremes met*, show itself in the graces of a free commerce, and the ties of an harmonious fraternity.

It is for you especially, people of Missouri, to seek these new relations with the Oriental people, with the zeal of faith and the fixed will of conviction.

It is arch mockery for us to be duped by the flippant caricatures of these ancient and polished Asiatics: invented by British envy to mislead us, and fed out to us by the British press to cloak sinister designs of subjugation and world-wide plunder.

Rather let us take alarm at the tone and source of this monstrous flood of calumny: and know that a direct inspection for ourselves will reveal to us, in Asia, empires of people illustrious for their antique civilization: rendered enduring and perfect by political equality, and wise civic institutions, winnowed and renovated during fifty centuries of uninterrupted experience—among whom the science and art of war, indeed, are decayed from long disuse: but all useful sciences highly perfected—with whom government has reached the mildest form of patriarchal despotism, eliminating political priestcraft and the disseminated tyranny of a patrician order—who have so admirably refined and perfected municipal government and police that 400,000,000 of population (double that of all Europe) are united under one harmonious political system in concord and tranquillity.

It is among these swarming hives of ingenious people that we will find markets on a scale commensurate with our own prolific industry.

This is not now the case in Europe. The Europeans are in all things

our rivals and competitors. Are we agriculturists? So are they, and wall off our competition with corn-law tariffs. Are we miners and manufacturers? So are they, and overtop us by abundance of labor and capital. Are we ship-owners? So are they, having an immense marine cheaply navigated. They conquer and colonize foreign countries, of whose trade they make monopolies! They are northern nations, whose clothing is of wool and flax, consuming a very limited amount of cotton.

What they take from us is to manufacture for exportation. Tobacco is prohibited—hemp and metals they export. The population of Europe is 205,000,000—of the Atlantic all round, 253,000,000.

On the Pacific, in front of us, are 400,000,000 people of the tropics—Polynesians, South Americans, Southern Asiatics—among whom wheat is not cultivated, and animal food, other than fish and poultry, very scarce. Their clothing is exclusively cloth of cotton, grass, and silk. Opium is excessively used among them. Rice, the plantain, banana, and fruits are their unsubstantial diet.

Here, then, will be the market for raw and manufactured cotton. Here our rank manufactured tobacco will substitute itself for opium. Here our substantial articles of food—flour, meats, and fish—will find purchasers in all who eat. Lead and hemp will be sold.

In return will come to us groceries, spices, teas, coffee, sugar—porcelain, Japan ware, furniture, works in ivory—drugs, paints, dyes, medicines—beautiful fabrics of silk, satin, velvet, crapes; nankeens, the delicate shawls of Cashmere, the carpets of Persia—jewelry, trinkets, and toys—the hemp of Manilla—luscious fruits dried and preserved.

The people of the Pacific have no marine adapted to cross the great ocean—the carrying to and fro will be in our ships, and a monopoly to us—ship-building and navigation will occupy our people of the new seaboard, and the metals, lumber, and hemp of the interior find a prodigious demand. The population of the Pacific all round exceeds 645,000,000!

Will not then our people find in this, that certain panacea of all their wants and wishes, namely, an infinite market of consumption? Surely this people, which has submitted to the nostrums of political quackery: tariffs of protection: banks to make money plenty: home manufactures and systems of internal improvement: all invented to create markets at home, by changing our producing agriculturists into consuming operatives: but all of which little experiments have produced industrial anarchy and commercial bankruptcy.

Surely this people will not hesitate to construct for themselves this great "National Highway," at small comparative cost: and leading as level as a cannon to its blank: to a new ocean, teeming with 645,000,000 of

people, of wants unlimited, and having a genius active, intelligent, and commercial! To effect this, it is only necessary to untrammel progress from the snares and dead-falls of maritime policy.

To reopen the legitimate onward trail of the *pioneer army*, and reinvigorate its march. The cause of the pioneers at this hour pre-eminently *demands* the undivided energies of Missouri. It is for us that the pioneer army is *now* conquering the vast wilderness that hems in our commerce and blocks the frontier: for us it throws down the perfidious Indian wall: reopens the central trail of advancement so long insidiously closed—and to us, for us, it re-establishes that crowning excellence of position of which hostile policy has for thirty years bereft us.

It is not ambition that impels *us*, citizens of Missouri, to advance to the advocacy of this great work with our whole unshackled energies—it is high religious duty.

Central to the continent, to its internal navigation, to its States, to its commerce, and to its variety of agriculture: neutral to all sectional antipathies, and the converging heart of all interests: WE must occupy this central position with power and dignity equal to its importance; with a strength of grasp and intensity of enterprise to cope with the tallest exigencies.

Let us appreciate this, and stand up to the work with hearts of controversy and sinews of endurance: that the fame of our glorious State, sallying forth from her seat in the centre, may resound in and outward all round from the centre to the circumfluent oceans!

Observe the foreign commerce of America, and the splendid marine which it sustains! This has grown up in two hundred years. But compare with it the commerce and navigation of the *interior*, grown up in less than forty years, for such is the age of steam navigation on the rivers and lakes.

The latter already equals the former, for it transports internally what is consumed at home, as well as what is collected at the seaports for exportation. Thus, St. Louis, in the amount of tonnage arriving and departing annually, is the fourth city of the Union, ranking next to Boston.

Indefinitely grand is this domestic, internal commerce. Let us compare the two. The commerce between New York and Liverpool, 3500 miles asunder, requires powerful vessels of great size and strength to carry much, and resist the storms of the ocean. The intervening space is a *desert waste* of salt water. A vessel of 600 tons must be filled with cargo before her departure, to make so long a voyage profitable. She goes to Liverpool and back—sails 3500 miles, touches only two points of land, and carries two loads—four months of time, at least, is consumed in

this. Such are the voyages of ocean commerce—expensive, dilatory and full of dangers.

Compare with this the river voyage. From Pittsburg (or New Orleans) to Fort Union, the distance is 3500 miles, by the Ohio and Missouri Rivers—a steamer of 600 tons, cheaply constructed and navigated, performs the voyage to and fro, with perfect safety, in two and a half months, and absolutely without danger, along a continuous river channel.

This channel has a double bank, so that this vessel coasts along a shore of 14,000 miles, at any square rod of which she may take in and discharge passengers and cargo. Thus it is possible that no single passenger or cargo remains on board over 100 miles, and yet the vessel is full throughout the voyage. These same advantages belong to *railroads* traversing populous countries. Such is our internal navigation—cheap, expeditious, and absolutely without danger.

Now the circuitous seaboard surrounding the Atlantic may be estimated at 69,000 miles, with harbors indenting it—but small vessels cannot navigate the broad sea, nor large vessels enter all the harbors.

On the other hand, within the united basins of the St. Lawrence and Mississippi, is a continuous river navigation for 45,000 miles, having a double bank or 90,000 miles of coast, the whole extent of which may be visited by the same steamer, which can land anywhere!

Such is one illustration of the supremely beneficent formation of this great interior basin, of which our own State occupies the centre and focus. Let a railroad from the Missouri elongate this to the Pacific: carrying population clear up all the rivers to their sources and down those beyond the Sierras: and behold the greatness of an *internal* commerce!

Everybody is acquainted with the commercial intercourse between the continents which fringe the Atlantic. The life, the vivacity, the grand energies which resound upon its buoyant waves. All this is the result of the discovery of America and its population with European stock—hence all this has its growth!

Antiquity had for its field the Mediterranean, and galleys sufficed. This was commerce in its infancy, confined to the nursery and content with toys. Since Columbus, America has become greater than the Europe of Columbus—and as this period has expanded the field of human activity from the Mediterranean to the Atlantic and Mediterranean, from Western Europe to America and Europe, blending all this vast space under one international relationship.

So now we advance to consummate the blending of the Pacific with these other seas:—Asia with these other continents—and urge to its goal that expanding progression, which marches on to complete the *zodiac* of

the globe, and blend into bonds of confraternity all the continents, all the seas, and all the nations!

In the vast region of Northwestern Texas, traversed by the rivers Brazos, Trinity, Rio Roxo, Canadian, Arkansas, and Del Norte, exists a fertile region much larger than France, the dryness of whose climate, whose red soils, impregnated with the sulphate of lime (plaster), and whose altitude, present in perfect combination the qualities for the cultivation of the grape and the production of wines.

These rivers all have their sources in prodigious mountains of plaster, from which the red tinge and the fertility of their valleys below is derived. Natural vineyards, covering millions of acres, and annually pruned down by the nibbling herds of buffalo and antelope, here now yearly waste an infinite vintage.

This has already become known to the German pioneers of Texas, and soon will be seen rising a vine culture, rivalling in national importance the cotton culture, the tobacco crop, and even the production of provisions. Then too will be seen the universal consumption of mild and healthy wines by our people, and the gay and exhilarating spirits which generous wines inspire, will transpose the fell passions and fiery madness of alcohol.

Again, the region of gold and precious metals and stones is not limited, but is absolutely infinite. It is over the whole extent of that primary and volcanic formation extending from the antarctic to the arctic extremities of America, including in its expanse the Andes of South and North America, the Sierra Madre and the Table Lands.

This abundance of the material of coin, wrought and developed by sober American industry, is to the human race the supremest gift of Divine Beneficence.

Has not the American cotton culture obliterated harsh aristocratic distinctions in dress, and thus democratized the costume of society over the world? What cotton has done for equality in dress, the same will gold effect for individual equality in property and physical comforts.

Study how the stiff, icy servitude of European feudal times has melted, since the conquests of Cortez and Pizarro opened the sources from which portable personal property has exalted itself above fixed and immutable globe land!

Beyond the Sierra Madre, upon the Great Table Lands, is a parallel vein of thin mountains, whose masses consist of rock-salt. As streams elsewhere bring down gravel and soil, so here they liquefy the rocks down which they descend, and reaching the small inland seas and lakes, yield it again in the crystalline coverings which pave their bowls.

In another parallel vein is a continuous line of plaster mountains.

In another, a continuous line of *thermal* and *medicinal* springs, some of which are the first appearance above ground of subterranean rivers, having flowed hundreds of miles under plains of lava.

Secondary basins of great size abound, having freestone, marble, and coal formations—iron, lead, and the metals of the arts. All forms, indeed, into which geology classifies matter, here follow one another in appropriate positions and proportions, with the regularity of the stripes of the rainbow: the whole deriving prominence and distinctness of detail from the immensity of the general scale.

Thus, instead of inferiority in abundance and variety of things used by and useful to man, it is here that they especially abound in variety, good quality, and vastness. *Across* all these must pass any highway connecting the two oceans, distributing outward the infinite natural resources of this intra-montane world.

No other portion of the world will better accommodate a dense population than these Table Lands, on which, farther south, is the chief population of Mexico. In the dryness and salubrity of its climate, its extraordinary pastoral excellence, and its mineral wealth, are the equivalents of the richer lands, but uncertain seasons and health of countries of less altitude. Its intermediate position will secure perpetual communication with the seaboards.

An admirable economy of arrangement given by nature to the *industry* of our people, points with great power to this central route, which also corresponds to the positions and courses of the great navigable rivers.

In New England and at the extreme north, where winter dwarfs agriculture, there are no planters, but ships are built, owned, and navigated. Here are the marine of America, her sailors.

On the shores of the Gulf, and where southern warmth invites men to agriculture, no ships are built, owned, or navigated—the people here plant and produce cargoes for the ships of the north—not a native sailor is found in these countries.

Between these, occupying a broad central belt, are the farmers, producers of food. These latter equal in number the other two combined. The farmer recoils from a southern sun, where heat forbids labor, and where the culture of wheat and swine languishes; in like manner, he recoils from the long winter of the north, where cattle and Indian corn cease to yield abundantly.

It is this *central farming population* which feed the commercial people of the North and the planting people of the South, and support themselves and furnish for export. They precede all other occupants, and head the movement into the wilderness, where the first requisites are

food and transportation. Yet it is among the farming population that domestic commerce finds its great volume of employments—and among them are required, first and chiefly, the great channels of trade which find their termini among the other two.

It is this mass, which, stopped by the artificial net-work of *maritime policy*, is now rushing through and tearing its meshes from their fastenings. In resuming their ancient vigor, concentrated by long restraint, they now demand a National Railway to the ocean which they seek.

What I have here stated, Mr. Chairman and fellow-citizens, of *geographical facts*, are of my own knowledge: for with the works of Lewis and Clarke, Fremont, Emory, and Humboldt, I have during six toilsome years of war and exploration, traversed the countries they describe, and the vast intervals between, which *they* have never visited.

In these wanderings, undertaken of my own will, I have descended the Andes to the Pacific and returned: crossed and recrossed by many routes all the basins of the TABLE LANDS, excepting only that of the city of Mexico, and coasted along the base of the Sierra Madre from 45° to 25°.

This "mother range" I have crossed and recrossed at six different passes in this long interval, and its supreme grandeur is stamped indelibly in my memory.

What I have said of *policy* is from the mouths of those eminent statesmen who have contrived it, and those equally eminent who have unsuccessfully opposed it.

I have expressed my convictions very positively, but not immodestly: for in the terrible vastness of these solitudes, Nature speaks her iron will from summits of eternal ice, and where she frowns upon our advances, our foolish efforts shrivel into ashes. It is, then, this stern and certain language of Nature that I have sought to penetrate, and here struggle to repeat.

Many routes for a National Highway, cunningly contrived and speciously rumored out, are before the people—all these will vanish beneath exact *geographical* scrutiny, for they violate nature at hap-hazard, with whom human skill must act in unison. This unison is happily attainable, and discussion will reveal it.

Let us, then, understand Nature rightly—let us cease from conflict, and feather our onward march in unison with her beneficent aid and guidance. This great work *must* come, and come *now*, *in this generation*. No difficulty lies in the enterprise itself—but such as will instantly vanish before the concentrated will and energies of the people.

III.

PROCEEDINGS OF A MASS MEETING

OF THE CITIZENS OF JACKSON COUNTY, AT INDEPENDENCE, ON THE 5TH OF NOVEMBER, 1849, TO RESPOND TO THE ACTION OF THE GREAT NATIONAL RAILROAD CONVENTION, HELD IN ST. LOUIS, ON THE 15TH DAY OF OCTOBER, 1849.

On motion of Mr. J. W. Modie, Colonel James Chiles was appointed Chairman, and on motion of R. G. Smart, Esq., J. R. Palmer was appointed Secretary.

Colonel William Gilpin was then called upon to address the meeting, and explain its object. He responded to the call in a speech which interested and occupied the attention of the meeting for about one hour and a half; in conclusion he moved the appointment of a committee of twelve to write and report to the meeting resolutions responsive to the action of the great Convention at St. Louis. The motion having been adopted, the Chairman appointed as the Committee: Colonel William Gilpin, A. Brooking, General S. D. Lucas, Samuel Ralston, Major Robert Rickman, Colonel James M. Cogswell, James Patton, Esq., Colonel Oliver Caldwell, R. G. Smart, Esq., William R. Singleton, Alexander Collins, and S. H. Woodson, Esq.

The Committee, after consultation, reported the following resolutions, which were unanimously adopted:—

1. *Resolved*, That we heartily and zealously approve of, and concur in, the proceeding of the "National Railroad Convention," held at St Louis on the 15th ultimo.

2. *Resolved*, That in the great national work, that shall connect the two seaboards of our country, and the interior with the seaboards, we behold an enterprise as universal to the inhabitants of our Union as their language, their politics, and their commerce—a bond of unanimous action, and not a bone of contention and strife.

3. *Resolved*, That to the people of the "Valley of the Mississippi," intimate and direct connection with the seaboards and people of the Pacific, is as essential and as interesting as with those of the Atlantic.

4. *Resolved*, That, inasmuch as our people in their natural progressive growth have extended their habitations across the continent, and along the

Western seaboard, it is our duty, and the duty of our government, to give to this new seaboard, fleets, fortifications, and arms for defence—harbors, light-houses, and marine police, for the encouragement and protection of commerce and highways—and a military police to confirm and make safe the connection with the interior.

5. *Resolved, further*, That a NATIONAL RAILROAD from the Mississippi to the Pacific is the most direct, economical, and constitutional means of effecting the above objects.

6. *Resolved*, That, whereas the Almighty has placed the territories of the American Union in the CENTRE, between Asia and Europe, and the route of the "Asiatic and European Railway" through the heart of our national domain, it is our duty to the human family to prosecute, vigorously, through its new channel, that supreme commerce between the Oriental nations and the nations of the Atlantic, which history proves to have existed in all ages, and to be necessary to keep alive comity, science, and civilization among mankind.

7. *Resolved*, That, whereas the people of China, Japan, Polynesia, and Southern America now receive from British India *agricultural produce* (raw and manufactured cotton, indigo, opium, rice, wool, etc.) to the amount of $150,000,000, annually; we believe these same people will take from the Americans, *in preference*, more than twice this amount of agricultural produce (substituting tobacco for opium, and flour and meats for rice), so soon as the barrier of the Rocky Mountains be removed by a National Railway.

8. *Resolved*, That, apart from the great benefits which shall accrue to us and the other nations of the Atlantic from this National Railway, we regard it as a beneficent *domestic* work, to open to our people access to the immense and glorious domain of the Plains, the Sierra Madre, the great Table Lands, and the Andes, known to abound in metals, mountains and lakes of salt, mountains of plaster and marble, thermal and medicinal springs, wild cattle, salubrious climates, sulphur, coal, lumber, arable and pastoral lands of the finest quality, and staple productions unlimited in variety and abundance.

9. *Resolved*, That, whereas, during the last thirty years, the generation of our fathers has covered the eastern half of our continent with States, and, commencing with the New York Canal in 1818, has everywhere rendered the connection between the "Valley of the Mississippi" and the Atlantic seaboard complete, and carried the commerce of the Atlantic to the grandest development—it is the high and glorious mission and duty of us their sons and heirs, of the growing generation, *in like manner*, to cover the western half of the continent with States, to render complete

with great works the connection of the "Valley of the Mississippi" with the Pacific seaboard, and expand upon the Pacific Ocean a similarly magnificent commerce.

10. *Resolved*, That we earnestly entreat our fellow-citizens, in all sections of our Union, to unite with us in this *central domestic* work in preference to dissipating the national energies upon circuitous routes, running near the equator, through foreign countries beyond our control, and certain to involve us in the competitions, the jealousies, and the hostile interests of foreigners and rivals.

11. *Resolved*, That we invite our fellow-citizens throughout the State to assemble in their counties and cities, and join in a general and unanimous response to the St. Louis Convention, and unite with us in respectfully instructing our Representatives and Senators in Congress to vote for such measures as may be introduced at the coming session of our National Legislature to carry out the views embodied in the foregoing resolutions.

12. *Resolved*, That the Secretary of this Mass Meeting forward to each of our Representatives and Senators in Congress a copy of these resolutions.

Mr. George W. Rhoades offered the following resolutions:—

1. *Resolved*, That Colonel Gilpin be requested to write out for publication the speech made by him to this meeting on to-day.

2. *Resolved*, That the "Missouri Commonwealth," and all other papers in this State friendly to a project of constructing a National Railroad to the Pacific from the "Valley of the Mississippi," be requested to publish the proceedings of this meeting.

IV.

PIKE'S PEAK AND THE SIERRA SAN JUAN.

EXTRACTS FROM AN ADDRESS BY COLONEL WILLIAM GILPIN, DELIVERED AT KANSAS CITY, NOVEMBER 16, 1858; ON THE GOLD PRODUCTION OF AMERICA AND THE SIERRA SAN JUAN.

I SUBMIT to your inspection three maps. The first is a "Hydrographic Map of North America," exhibiting in daguerreotype the physical divisions of our continent; the second is a map of the world, exhibiting America in the centre, between Asia and Europe, and having delineated upon it the Isothermal Zodiac of Nations, filling the north temperate zone of the globe; the third is a map of the "Basin of the Mississippi."

Physical geography arranges the surface of the continents into basins and the mountain crests which divide them. Thus the basin of the Mississippi is that surface which, being drained by all the confluent branches of this river, discharges its fresh waters into the Gulf of Mexico.

This surface is an undulating, calcareous plain of 1,200,000 square miles of area: it is embraced entirely within the temperate zone: occupies the heart and splendors of our continent: and is the most magnificent dwelling-place marked out by God for man's abode.

Three more similar *calcareous* basins, each drained by a single system of rivers: the basin of the St. Lawrence: the basin of the Saskatchewan of Hudson Bay; and the arctic basin of the Athabasca, resting upon one another and upon the basin of the Mississippi, form together one continuous expanse, geologically uniform and identical.

This immense expanse defines itself as the *Calcareous Plain of North America*. Limestone, horizontally stratified, underlies this whole expanse, being formed, like cheese from milk, from the sediment and pressure of the ocean which once rolled over it, but has now retired.

This *calcareous* plain, thus forming a unit in physical geography, embraces four-sevenths of the area of our continent. It is encompassed all round by a circuit of primary mountains, within which it forms an amphitheatre.

These mountains are the Alleghanies, towards the Atlantic; the Cordilleras of the Sierra Madre and the Andes, towards the Pacific. The mouths of the great rivers form the doors or outlets through them to the oceans. This circumferent wall of mountains is of immense breadth towards the Pacific. It is the second unit in physical geography, and covers two-sevenths of the area of our continent.

External to the Mountain Formation is the *Maritime Slope*, washed by the oceans, and penetrated by the tides. This external division is the third unit in physical geography, and forms all round one-seventh of the area of our continent.

Behold, then, the physical arrangement of our continent; at once simple, complete, and sublime:—the Calcareous Plain, four-sevenths; the Mountain Formation, two-sevenths; the Maritime Slope, one-seventh.

The *geological* structure of our continent has the same order, a like magnitude of dimensions and arrangements, a parallel simplicity. The *Calcareous Plain* is a uniform secondary formation of limestone, horizontally deposited and stratified. The *Mountain Formation* is of granite, presenting the primeval crust of the globe rent by volcanic forces and elevated vertically. The *Maritime Slope* presents the external mountain base partly revealed, and partly covered by the washings of the sea.

Everybody is familiar with the manufacture of shot. This is accomplished by pouring liquid lead, at a high elevation, through perforated moulds. Each pellet of lead, descending through the air, is formed, as it cools, into a sphere, by the invisible force of gravity. The globe of the earth has had a similar origin—once a liquid mass, now a solid, gravitating sphere, such as we inhabit it.

Geology explains how the material mass of this great sphere has arranged itself, in cooling, into layers enveloping one another, like the successive coatings of an onion.

Specific gravity accounts for the relative position of these layers, one upon the other, and explains to us when and how to penetrate to their metalliferous contents. It is in the *primeval* rocks exclusively that the precious metals and precious stones are found. The base metals are contained in the *calcareous* or secondary rocks. The same stupendous scale holds in the abundance of the metals, their purity, and their widely extended distribution.

It is your request that I speak, specially, on this evening, of the gold production of our country, and specifically of the region surrounding Pike's Peak and the Sierra San Juan.

Specific gravity guides us to discover the rocks in which the precious metals may be found, and where they are totally absent. If into a hollow

pillar of glass there be poured a quart of quicksilver, one of water, one of oil, and one of alcohol, these liquids will rest one upon the other, in this order: if a piece of gold, of iron, of wood, and a feather, be thrown in, they will sink: the gold to the bottom, the iron to the quicksilver, the wood to the water, the feather to the oil.

If this mass be congealed to ice, this arrangement will remain solid and permanent: the gold must be sought for *sedimentary* to the quicksilver; the iron above it, but *sedimentary* to the water; the wood sedimentary to the oil. In the great order of nature, a similar arrangement holds in the rocks which compose the globe of the earth, and in their contents, once all liquid, but now permanently solid in the order of their relative *specific gravities*. It is the *primeval* mass, then, of the Mountain Formation, which alone is *auriferous*, and within it only can the precious metals, and especially gold, be sought for with success.

The Mountain Formation, which occupies the western portion of our continent to the extent of two-sevenths of its whole area, consists of the Cordillera of the Sierra Madre on the east, the Cordillera of the Andes on the west, and the Plateau of the Table Lands embraced between them. *It is uniformly primeval and everywhere auriferous.*

The Plateau of the Table Lands commences above Tehuantepec, where the Cordilleras begin to open from one another. It runs through the continent to Behring's Strait, and is 1000 miles in width, in our latitude (39°).

The general elevation of its surface is 6000 feet above the sea; that of the Cordilleras is 12,000 feet. The Plateau is traversed across by great mountain chains, which subdivide it into basins. Three of these basins contain, respectively, the great rivers the Columbia, the Colorado, and the Rio del Norte, which gorge the Cordilleras and escape to the seas.

Three other basins contain the stagnant lakes, the Great Salt Lake, the Lagunas, and the Lake of the City of Mexico; these have no outlets or drainage to the seas. Of these mountain chains the most interesting to us is the Sierra Mimbres. This divides asunder the basins of the Colorado and the Del Norte, which rest against it as a backbone.

It leaves the *western flank* of the Cordillera of the Sierra Madre in latitude 39°, and, traversing the Plateau by a due southern course for 1400 miles, joins the Cordillera of the Andes in the Mexican State of Durango, in latitude 23°. This mountain chain is volcanic, containing craters and the overflow of lava. The Cordillera of the Andes is also volcanic.

These mountain chains consist of the primeval rocks, broken from their original positions, heaved up edgewise by the expansive power of the in-

ternal fires of the globe, and revealed to sight and search. Moreover, the Colorado River, in escaping to the sea, gorges the Cordillera of the Andes diagonally, having rent its way by a chasm bored through the very bowels of the Cordillera, athwart from base to base. This chasm, 400 miles in length, is known as the Cañon of the Colorado.

This cañon presents the unique and novel fact to mankind, that a primary mountain chain whose summit is of the *auriferous rocks*, is thus gorged to its foundations, many thousand feet in depth! It is here, upon the Plateau, in the arcana of the mountain formation, and the activity of the stupendous forges of nature, that the precious metals may be sought in mass and in position.

Moreover, the Sierra Mimbres, where its southern half bisects the Mexican States of Durango and Chihuahua, contains twenty-one mines of silver, which, wrought for three centuries by the Spaniards, have furnished the world with its silver coin and bullion. Moreover, where the Sierra Mimbres, in its course to the north, approaches to its junction with the Sierra Madre, it increases to a prodigious bulk.

It rises to the altitude of perpetual snow, and assumes for 200 miles the local name of *Sierra San Juan*. Here it is that the dislocation of nature by volcanic forces, and the consequent metalliferous development, attain their highest culmination.

What is about to follow the arrival of our pioneer people within this region, may be exactly illustrated by what is already done within the region of the great *Calcareous Plain*.

We have seen that the *calcareous plain*, being formed beneath a great ocean, condensed from its filtration and by its pressure, contains only the base metals, copper, iron, lead, zinc. A metalliferous band of these metals is traced diagonally across it, traversing from Southwestern Texas, through that State, through Arkansas, Missouri, Wisconsin, brushing the shores of Lake Superior and of Hudson Bay, to the ocean shore opposite Greenland.

Points of culmination of these various metals are found where they reveal themselves above the general surface *in mass and in position*. Thus, iron appears in Missouri in native purity, protruding in mountain masses over many hundred square miles of surface; the same is the form of copper adjacent to Lake Superior; so also with lead in Missouri and in Wisconsin.

Now, the same arrangement characterizes the immense primeval formation which occupies our continent from Cape Horn to Behring's Strait, and which is throughout impregnated with the precious metals! As gold is everywhere else found within it in the form of grains or scales, or minute

lumps: so is it possible for it to culminate *in mass and in position*, where the auriferous rocks are upheaved to form the vertical masses of the Sierra San Juan and the Andes, and are then gorged into their bowels by the cañon of the Colorado.

The search for gold has heretofore confined itself to the external flanks of the primeval mountains, where they front the sea, and where the rivers descend from their backs. Why it has here been found only in grains, scales, and small lumps may be thus illustrated: I suppose myself at my camp-fire in the wilderness, engaged in boiling rice: into a camp-kettle of boiling water I throw a cup of rice. This rice, after a time, settles by its *specific gravity* into a sedimentary mass beneath the water—the water above retains a milky whiteness. This whiteness is due to the presence of minute particles of rice remaining suspended through the body of the fluid. Being frozen into ice, this condition remains fixed in solid form.

The presence of the gold in the auriferous rocks has had a similar origin, and presents identical conditions. It is the attrition of the elements upon the surface rocks and veins only that have as yet attracted attention. It is *beneath* that we must search for the sedimentary mass; the possibility to do which now first presents itself as we advance within the labyrinth of the volcanic masses and cañons of the Plateau.

My own personal experience, earned during three military expeditions made between the years 1844–49, rendered desperate from the then unknown complication of the country added to the numerical strength and savage character of the Indians, is not without value.

The facts then and since collected by me are so numerous and so positive, that I entertain an absolute conviction, derived from them, that *gold in mass and in position* and infinite in quantity will, within the coming three years, reveal itself to the energy of our pioneers. All the precious metals and precious stones will also reveal themselves in equal abundance in this region so propitious to their production.

Such a development has nothing in it speculative or theoretical. It comes of necessity in the order of time, and as an inevitable sequence to the planting of empire in Texas, in California, in Oregon, in Kansas, and in Utah.

As these other developments have preceded it in the order of time, and encompass it all round, this now comes to unite, to complete, to consummate the rest, and to give form and power and splendor to the whole.

The inquiry which acquaints us with the climate, the agriculture, and the domestic geography of this immense region, is still equally interesting and important as its metals. It was upon the summit of this plateau,

where it traverses Mexico and Peru, that the semi-civilized empires of Montezuma and the Incas were found, when a sterile barbarism pervaded every other portion of the continent of America.

The distance hence to Pike's Peak is less than 700 miles. It is reached by the great road of the Arkansas River, traversing straight to the west, and ascending the imperceptible grade of the Great Plains clear to the mountain base. Gold is here discovered as soon as the primeval rocks rise from beneath the calcareous plain.

Pike's Peak, which rises to the altitude of 14,500 feet above the sea, is the abrupt colossal termination of the mountain promontory, which, protruding eastward from the Cordillera 100 miles, sunders from one another the sources of the South Platte and the Arkansas Rivers.

Where this promontory connects with the Cordillera is a supremely grand *focal* point of primary mountain chains, primary rivers, and parcs. This *focal* point is in the same latitude as San Francisco and St. Louis (39°), is about 1000 miles from each, and in the centre between them.

The direction of the Cordillera is from *northwest* to *southeast*. From its western flank protrudes a promontory, balancing and similar to Pike's Peak, known as Elk Mountain: it sunders from one another the Grand River of the Colorado and the Eagle, terminating abruptly within the angle of their junction. Radiating due south is the *Sierra Mimbres*, known for 200 miles by the snowy peaks of *San Juan:* this chain sunders the waters of Eagle River from the Rio del Norte.

The southern arm of the Cordillera sunders the waters of the Rio del Norte from the Arkansas River: the northern arm, the waters of the Platte River from the Rio Grande of the Colorado. Such is this focal summit, from which five primary mountains and five rivers simultaneously depart.

Upon the Platte is the parc known as the Bayou Salado; upon the Rio Grande of the Colorado, the parc known as the Middle Parc; upon the Rio del Norte, the parc called the Bayou of San Luis. The Arkansas and Eagle Rivers have no parcs: they defile outward through stupendous cañons.

The parcs, scooped out of the main dorsal mass of the Cordillera by the rivers which bisect them, are, each one of them, an immense *amphitheatre* of singular beauty, fertility, and temperate atmosphere; they approach one another where they rest against the Cordillera at the extreme sources of the rivers.

Behold, then, the panorama which salutes the vision of one who has surmounted this supreme focal summit of the Cordillera! Infinite in variety of features; each feature intense in the magnitude and the gran-

deur of its mould; in front, in rear, and on either hand, Nature ascending in all her elements to the standard of superlative sublimity!

Beneath, the family of Parcs: around, the radiating backs of the primeval mountains: the primary rivers starting to the seas: above, the ethereal canopy intensely blue, effulgent with the unclouded sun by day, and stars by night: to the east, the undulating plains, expanding one hundred leagues, to dip, like the ocean, beneath the encircling horizon: to the west, the sublime Plateau, checkered by volcanic peaks and mesas, channelled as a labyrinth by the profound gorges of the streams!

It is manifest with what ease the pioneers, already engaged in mining at the entrance of the Bayou Salado, will in another season ascend through it to the Cordillera, surmount its crests, and descend into the Bayou San Luis. They will develop at every step gold in new and increasing abundance.

Besides, access is equally facile by the Huerfano, an affluent of the Arkansas coming down from the Spanish Peak, 100 miles farther to the south. From New Mexico, the approach is by ascending the Rio Bravo del Norte. The snowy battlements of the Sierra San Juan form the western wall of the Bayou San Luis. From its middle flank the Sierra San Juan projects to the southwest a chain of remarkable volcanic mountains, known as the Sierra La Plata (silver mountain). This chain divides asunder the waters of the Great Colorado from the Rio San Juan, and, filling the angle of their junction, forms the perpendicular wall of the Great Cañon.

It is to this remarkable mountain chain, and its surrounding region, that I have desired to conduct you, and here stop, in the midst of the veritable arcana of the Mountain Formation and its metalliferous elements.

The Sierra La Plata is 400 miles in length, having its course west-southwest. Along its dorsal crest are volcanic masses penetrating to perpetual snow; its flanks descend by immense terraces of carboniferous and sulphurous limestone. All formations of the globe here come together, mingle with one another, acquire harmony, and arrange themselves side by side in gigantic proportions.

Lava, porphyritic granite, sandstone, limestone, the precious and base metals, precious stones, salt, marble, coal, thermal and medicinal streams, fantastic mountains called cristones, or abrupt peaks, level mesas of great fertility, cañons, delicious valleys, rivers, and great forests; all these, and a thousand other varieties, find room, appear in succession, in perfect order and in perfectly graceful proportions.

Remoteness from the sea, and altitude, secure to this region a tonic atmosphere, warm, cloudless, brilliant, and serene. The aboriginal people

are numerous, robust, and intelligent. They are the Navajos and Yuta Indians. They have skill in agriculture and weaving, rear great herds of horses, cattle, and sheep, but construct neither permanent nor temporary houses, so dry and favorable is the atmosphere.

Here, also, occurs a remarkable, isolated mountain, known to rumor for half a century, but only now locally identified. This is Cerro di Sal (Salt Mountain). This rises among the western spurs of the Sierra La Plata, to an altitude of 9000 feet, appearing as an irregular cone of great bulk. A pure stratified mass of rock-salt, its flanks are channelled by the little river Dolores, whose waters, saturated with liquid salt, yield it again in its lower course, in granulated beds of snowy whiteness, tinted with vermillion streaks from the beds of selenite with which the salt formation alternates.

Such, my fellow-citizens, are the facts and reflections which I have selected for your attention in speaking upon the gold region of Pike's Peak and the Sierra San Juan. The superlative character of this region engaged the enthusiastic pen and patriotic instincts of President Jefferson, more than half a century ago.

Overshadowed during this long interval by political and military excitements, which have deflected elsewhere the progressive columns of our pioneer people, it now recurs to restore the pre-eminent *centinental* character which inspired the generation who founded our republican Union.

Who, and what, are those people that I now address? We are not the people of the North; we are not the people of the South; nor of the East; nor of the West. We are emphatically, and *par excellence*, the people of the Centre! Inspirations, otacular by their source and their antiquity, admonish us to resume our distributive position, and develop the energies which assume and keep the lead.

Look upon this map of the world, upon which science delineates the zodiac of empires and the isothermal axis of progress! We have our homes around the *centre* of this our northern continent, the *centre* of our continental Union, the *centre* of the Mississippi basin. Behold, upon the right hand, the European continent, with its 260,000,000 of people; it slopes towards our eastern seaboard and faces towards the west!

Behold, upon the left hand, the continent of *Oriental Asia* and its islands, with its population of 650,000,000; it slopes towards our western seaboard and faces to the east!

These external continents, dividing between them the population of the world, both face America and face one another across America. We occupy the middle space between them, and at once separate them asunder and connect them together. From Paris to Pekin, travelling by our

threshold, is but a journey of 10,000 miles. It bisects the temperate zone—it is the line of land and way travel of mankind.

But a fact of profound significance to us, revealed by physical geography, remains to be considered. It is along the axis of the *isothermal zone* of the Northern Hemisphere, that the principles of revealed civilization make the circuit of the globe. This *isothermal zone* deflects from the geographical zone (which is a flat section of the globe), undulating to the north and to the south, to preserve a constant identity of temperature.

Under the influence of the warm *maritime* climates, it rises high above the 40th degree of latitude; under the influence of the *continental climates*, it is depressed to the south of the 40th degree. With what the history of six thousand years practically demonstrates, the proofs of physical geography agree.

Along this axis have arisen successively the great cities of China and of India, of Babylon, Jerusalem, Athens, Rome, Paris, London, in the older continents—upon our continent, the seaboard cities, New York, Philadelphia, and Baltimore; Pittsburg, Cincinnati, and St. Louis. The channel of the Missouri is its onward track to us: whence it passes by the Kansas basins, the Sweetwater, Snake River, and the Columbia, to Vancouver's Island, upon the North Pacific shore.

We, then, *the people of the centre*, are upon the lines of intense and intelligent energy, where civilization has its largest field, its highest developments, its inspired form. Along this line have come, from the plateau of Syria, our religion, our sciences, our civilization, our social manners, our arts and agriculture, the horse, our articles of food and raiment; and here is the eternal fire from which is rekindled, when it has expired, the spirit of the "unconquerable mind, and freedom's holy flame."

We have seen depart a perverse generation, distinguished by civic discord. An unscrupulous *seaboard power* has aspired to found a republic of the North; a republic of the South; a republic of the Pacific shores. A nefarious federal policy, operating for forty years, has occluded with savages and deserts the delicious central region of the prairies, the great plains, the plateau, and the mountains.

The physical geography of our country has been officially caricatured, concealed, and maligned. The solid continental republic, founded in 1776 and completed in 1787, has been nullified by interpolated monarchies.

The *Land system* has crushed and plundered the continental people with the brutalizing pressure of mediæval feudalism.

The *Indian system* has walled up, as in a Bastile, the whole central meridian of our continent.

Forced out artificially upon the flanks, we have seen our pioneer energies

driven in fragments into Florida, into Texas, into California, into Oregon, into Minnesota. We behold on the one hand a tier of artificial seaboard States, isolated upon the maritime slope; on the other hand, the continental centre, an immense disc of howling wilderness.

Foreign wars have been waged, federal revenues and patronage exhausted, federal law and power stretched out to every device of tyranny, the federal constitution violated in every sacred principle, to erect this monarchical seaboard power, and establish it in perpetual dominance over the continent.

For the centre, civil wars, civil discords, false geography, calumnies, every form of meretricious and deceptive political agitation, have been suicidally fomented.

The foundations of the Union, lost in the centre and scattered around an invisible circumference: the Union itself, incessantly assailed and perpetually menaced: has seemed to approach the twilight of its existence, and, lost to the guardian care of the people, has been in suspense between the infuriated passions of extreme sectional fanatics.

Our great country demands a period of stern virtue, of holy zeal, of regenerating patriotism, of devoted citizens.

It is to the people of the great central State of Missouri that I speak. To exalt their intrepid enthusiasm is my aim. Open the track across the Plateau to the other sea, and we are absolutely the leaders of the world, heading the column to the Oriental shores.

With us are the continental eagles and the continental cause, immortalized by the purity of Washington, illuminated by the wisdom of Jefferson, vindicated and restored by the illustrious Jackson.

Let us condense around these eagles and advance. It is the predestined mission of mankind, confided to America to fulfil, to our generation to complete.

> Night wanes, the vapors round the mountains curled
> Burst into morn, and light awakes the world!

V.

GEOGRAPHICAL MEMORANDA ON THE PACIFIC RAILROAD.

CHAPTER I.

INASMUCH as the general mind seems willing to entertain with favor and judge candidly what may be truthfully said of a NATIONAL RAILROAD TO THE PACIFIC, and everywhere is indicated a growing taste for whatever may solidly enhance the prosperity of our *continental* system, I have condensed into these few chapters the general views resulting from a long experience.

This subject touches profoundly all the existing relations of the human family, connecting *three* continents, and unites together, by a short line of *ten thousand miles*, the *thousand* millions of people inhabiting EUROPE, AMERICA, and ASIA. This short line traverses the middle of the north temperate zone, perforating nine-tenths of the land, the population, the production, and the consumption of the world.

I say, it is necessary for one who will write with dignity upon such a subject, so searching and omnipotent, to grasp boldly its immense scope of matter; to rely upon solid statistics; to face and brave old opinions; to repudiate the rubbish into which thousands of years of staggering and abortive efforts have submerged it; and to condense it to the tangible form of propositions, which may be *practically* handled for a final solution.

The shortest trail whereby the *local* works, now on hand and proposed, may be understood, the public judgment matured, and opinion instructed and concentrated for *action*, is to condense by rigid analysis, and draw into one view, the multitudinous facts of geography, commerce, politics, and progress under which the American people are so rapidly erecting a *supreme democratic republican empire*, and fitting it to the surface of the northern American continent and islands.

And *first*, must be emancipated from the dogmatic European writers (who, with procrustean despotism, rive up all other portions of the globe to fit their own pigmy theories) the symmetrical and sublime *geographical plan* of our continent.

This, heretofore veiled from the public mind by every form of contortion, is reducible to an exact system, easily understood and eternal. The *reverse* geographical form in which our continent is moulded: the contrast of all the others: makes a new and *original* grandeur of society, not only possible, but compulsory upon us.

To disinfect ourselves of inane nepotism to Europe in other things as we have done in politics: to ponder boldly on ourselves and our *mission*, and develop an indigenous dignity—to appreciate *Asiatic* science, civilization, commerce, and population—these are *essential* preparatory steps to which we *must* tone our minds.

This, then, is the simple plan of North America:—The ANDES, having traversed the whole length of *South* America, passing out from the Isthmus of Tehuantepec, continue to follow, unchanged in character, the Pacific shore of North America clear up to Behring's Strait. Known successively as the Cordilleras of Anahuac in Mexico, Sierra Nevada in California, and Cascade Mountains in Oregon, it is all along the same *auriferous* and volcanic ANDES. It has a narrow base washed on the west by the tide; immense altitude; summits of perpetual snow; and is formed of the columnar vulcan rock, or a molten mass of lava.

Between this continuous escarpment of rock and the sea, is the *maritime* region of the Pacific, which contains all the present American population residing in California and Oregon, upon the smaller rivers running directly into the sea, and parallel to one another.

It resembles, and is the counterpart of, the *maritime* Atlantic declivity; which contains the *old thirteen States*, and which is shut off from the valleys of the Mississippi and St. Lawrence by the Alleghanies.

But, at the Isthmus of Tehuantepec, the ANDES bifurcates, throwing along the coast of the Mexican Gulf the great *Cordillera of the Sierra Madre*, which opens rapidly from the ANDES, as the continent widens. This assumes in our territory the name of *Rocky Mountains*, and traverses north to the shores of the Arctic Sea. It is some 1400 miles apart from, and to the *east* of, the ANDES, and forms the primary *divide*, the "*divortia aquarum*" of America.

The absolute *separate* existence of these *two* prodigious CORDILLERAS, must remain distinctly in the mind, if anybody intends to understand *American geography*.

The interval between them, from end to end, is occupied by the PLATEAU OF THE TABLE LANDS, on which are alike the cities of Mexico, Chihuahua, and the Mormon city of the Salt Lake. This PLATEAU OF THE TABLE LANDS is two-sevenths of the surface of North America: is some 6000 feet elevated above the external oceans: and gives as complete a

separation between the CORDILLERAS on the flanks, as does the Atlantic, whose waters roll between the Alleghanies and the Alps.

Thus that side of the American continent which may be defined to front *Asia*, and sheds its waters in that direction, has these four characteristic divisions:—the *maritime* front; the ANDES; the PLATEAU OF THE TABLE LANDS; and the SIERRA MADRE, all extending the whole length from *south* to *north*, parallel to one another, and covering in the aggregate *two-fifths* of its whole area.

These *two* continuous *primary* mountain chains define themselves as the WESTERN and the EASTERN *Cordilleras*.

The remaining *three-fifths* of the continent sheds its waters towards the ATLANTIC. Here too the same sublime grandeur and simplicity of plan are discernible. From the *Sierra Madre*, the whole continent descends to the seas by immense planes, resembling the glacis of a fortress, or a flattened octagonal house-roof.

This plane, once the bed of immense oceans, of which the Sierra Madre was the shore, and bevelled by the action of the watery mass, now forms the gentle slope down which descend, to replenish the oceans, the surplus waters of the *Sierra Madre* and the plane itself. Guttered everywhere by these descending water-courses, seaming its surface as innumerably as the veins which carry back the blood to the human heart, these aqueous channels flow down the different faces of the great plane, proportioned in length and size to the distances to be traversed.

Thus, down the smaller face, which fronts the Mexican Gulf,—at present comprehended in Texas,—run the lower Del Norte, the Nueces, Colorado, Trinity, and Brazos.

Down the *grand eastern* front, called by us the "Great Prairie Plains," descend the Red River of Louisiana, the Canadian, Arkansas, and Kansas, the Platte (with its three forks), and the sublime Missouri itself. All of these, running due *east*, parallel to one another, very straight and without rapids, are received into the great *central trough*, the MISSISSIPPI, which runs from north to south across their direction, and their accumulated waters are discharged into the Gulf.

From the same *focal* point with the Missouri, radiate two fronts. The one is drained by the system of rivers tributary to the Saskatchewan, opening to the *northeast*, and widening to embrace the immense inland sea of Hudson Bay. The other is upon the Athabasca or McKenzie River, sloping due north, and occupying the vast *hyperborean region* stretching to the Arctic Sea.

From an elevated swell in the plane between the Missouri and Saskatchewan, protruding from the *Sierra Madre* eastwardly along the 49th

degree, about 700 miles, issue the waters of the *Upper Mississippi and St. Lawrence*. The first goes directly south to scour out the *trough* of the continent. The latter flows down the narrow basin of the lakes and their river St. Lawrence, to where the glacis reaches the sea and forms the shores of the gulf of that name.

Thus, from the dividing wall of the *Sierra Madre*, the continent descends uninterruptedly to the Gulf: the North Atlantic: and the Arctic Seas. The perfect gentleness of this descent, scarcely distinguishable from a level, is perceptible from the rivers, which are entirely free from rapids and everywhere navigable when water is sufficient in their beds.

The sublimest example is the watery surface of the MISSOURI, whose liquid plane, dipping by perhaps *thirteen* inches to the mile, has an unruffled uniformity of descent through its whole course of 5000 miles to the sea.

But to render complete this geographical delineation, there rises all along the Atlantic, and parallel with its shore, the dividing range of the Alleghany, uninterrupted from Baton Rouge to the Gulf of St. Lawrence.

External to this is the narrow *seaboard declivity* which first received the European settlements, and still holds the densest population: but *within*, a reverse *glacis* descends to the Mississippi and St. Lawrence, filled with States to the central trough of the continent.

Practically, the *basins* of these great rivers are narrowed to mere passes at their mouths by the points of the mountain chains which fence them from the sea, expanding to an immense breadth in the interior, and fading into one another, where they touch, by prairie divides of imperceptible elevation. They form together one vast *bowl*, whose waters flow from the circumference near the seas, inwards, to centres which are near and already connected by art as at Chicago. This bowl or plain is everywhere *calcareous*, being paved beneath the soil with an undulating covering of limestone, as is a frozen lake with one of ice.

To recapitulate and grave it upon the mind: as with the style wherewith the artist cuts into steel the deeply shaded lines of a picture: the whole *Atlantic* side of the continent is *one calcareous* plain of many fronts. Each front has a mighty system of arteries, demonstrating its gradual slope, and carrying its surplus waters to the sea. Yet by the rising of the eastern halves of the basins against the Atlantic barriers it is also a sublime bowl, into which the waters have first a concentric direction, as they accumulate into the *troughs* that conduct them to the sea.

The superlative wonder about this is, that here, *in North America*, is rolled out in one uniform expanse of 2,300,000 square miles, an area of

arable land equivalent in surface to the aggregate of the valleys of the other continents, which are small, single, and isolated.

Moreover, the interlacing of the rivers forms everywhere a complete system of navigation: blended into one by public works of the easiest construction: and forming, by their double banks, *a shore-line equal in extent to the coasts of all the oceans.*

To master the *geographical portrait* of our continent thus in its unity of system, is *necessary* to every American citizen—as necessary, as it is to understand the radical principles of the Federal Government over it, and of political society.

Our country is *immensely* grand, and to understand it in its simple grandeur, it is not an extravagance, but is a homespun matter-of-fact duty. If we flinch from this duty, we recede from the divine mission chalked out for us by the Creator's hand, sink below the dignity of our ancestors, and fall into the decrepitude of the voluntary, illiterate, and emasculate *subjects* of Europe.

To enforce these truths with yet greater stringency, and to tempt or lash the popular mind out of its cringing and criminal torpidity, still another illustration remains of the paramount significance to us of *geographical facts*. This is the *contrast* between our own and the other four continents.

EUROPE, the smallest of the grand divisions of the land, contains in its centre the icy masses of the Alps; from round their declivities *radiate* the large rivers of that continent; the Danube directly east to the Euxine; the Po and Rhone south to the Mediterranean; the Rhine to the Northern Ocean.

Walled off by the Pyrenees and Carpathians, divergent and isolated, are the Tagus, the Elbe, and other single rivers, affluents of the Baltic, the Atlantic, the Mediterranean, and the Euxine.

Descending *from* common radiant points, and diverging every way from one another, *no intercommunication* exists between the rivers of Europe: navigation is petty and feeble: nor have art and commerce, during many centuries, united so many small valleys, remotely isolated by impenetrable barriers.

Hence upon each river dwells a distinct people, differing from all the rest in race, language, habits, and interests. Though often politically amalgamated by conquest, they again relapse into fragments from innate *geographical* incoherence. The history of these nations is a story of perpetual war; of mutual extermination; and an appalling dramatic catalogue of a few splendid tyrannies, crushing multitudinous millions of submissive and unchronicled *serfs*.

Exactly similar to Europe, though grander in size and population, is ASIA. From the stupendous central barrier of the Himalayas run the four great rivers of CHINA, due *east*, to discharge themselves beneath the rising sun: towards the *south* run the rivers of Cochin China, the Ganges, and the Indus: towards the *west*, the rivers of the Caspian: and *north* through *Siberia* to the ARCTIC Seas, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya Mountains have proved insuperable barriers to the amalgamation of the nations around their bases and dwelling in the valleys which radiate from their slopes. The continent of AFRICA, as far as we know the details of its surface, is even more than these split into disjointed fragments. Such also, in a less degree, is SOUTH AMERICA.

Thus, whilst *Northern America* opens towards heaven in an expanded bowl to receive and fuse harmoniously whatever enters within its rim: so each of the other continents, presenting a bowl reversed, scatters everything from a central apex into radiant distraction. Political empires and societies have in all ages conformed themselves to these emphatic *geographical facts.*

The American Republic is then *predestined* to expand and fit itself to the continent. Much is uncertain, yet through all the vicissitudes of the *future*, this much of eternal truth is discernible: In geography the *antithesis* of the Old World, in society it is and will be the *reverse.*

North America will rapidly attain to a population equalling that of the rest of the world combined: forming a single people, identical in manners, language, customs, and impulses: preserving the same civilization, the same religion: imbued with the same opinions, and having the same political liberties.

Of this we have two illustrations now under our eye: the one passing away, the other advancing. The aboriginal Indian race, among whom, from Darien to the Esquimaux, and from Florida to Vancouver's Island, exists a great identity in their hair, complexion, features, stature, and language. And *second*, in the instinctive fusion into one language, and one new race, of immigrant Germans, English, French, and Spanish, whose individuality is obliterated in a single generation!

It is thus that the holy question of our *Union* lies in the bosom of *nature:* its perpetuity in the hearts of a great democratic people, imbued with an understanding and austere reverence for her eternal promptings and ordinances. It lies not in the trivial temporalities of political taxation, *African slavery*, local power, or the nostrums of orators however eminent. It is the truth, established by *science*, and not the deductions of metaphysics, with which the people must fortify themselves.

As power resides in the people and the *suffrage* is its exercise, with them also must reside intelligent and wise counsel. To be certain that the great principles on which they rely to strengthen and perpetuate human rights, are the truthful deductions of *exact science, and in harmony with nature*, is the individual duty of the citizen. To reject what is otherwise, is the only safety from usurpation and tyranny.

To assert that the mass are deficient in intelligence to comprehend and use familiarly *the truth of science*, is the language of tyrants and perfectly false. Behold an eternal example of universal dissemination and familiar use of *scientific truths*.

The alphabet of *twenty-six letters* and the numerals of *ten figures* are the most profound, condensed, and sublime forms of abstract truth which science has or can give to the human race. How many ages and how great a mass of intellectual analysis and research consumed itself to reach this abstract *quintessence* of truth, has not come to us with the inventions themselves.

At sight of a volume printed, or a newspaper, the intelligent savage is crushed with a sense of despair, not knowing that a few years of study will render intelligible to him this mass of chaotic mystery. The child of civilized society, on the contrary, commencing with the alphabet which science has discovered and bequeathed, *accepts it through faith*, combines letters into syllables, syllables into words, words into sentences, and has opened to him, by an easy ascent, the knowledge which written language has accumulated and perpetuated since its invention, some thousands of years ago.

Believing that abstract truth, wherever reached in other departments of human affairs—*as for instance in geography*—may, in like manner as the alphabet, be universally received, trusted, and used by the people, I have written these remarks and constructed the map which accompanies them. They agree with the speculations of the *scientific* writers whom I have been able to consult, especially Humboldt and Jefferson.

If this abstract of simple *geographical elements* be truth, then should they stand the basis of political reason, as the Ten Commandments stand in the field of religion. Admitted to be true, the future of the AMERICAN REPUBLIC, expanding to fit the continent, as the human foot within a shoe, and brightening the world with its radiance, is familiarly discernible.

The general *continental geography*, filling up the details of its surface, as the flesh and muscles cover the human skeleton, will readily be conceived in the mind, and assume order and symmetry.

Variety of climates and of altitude: the consequent distribution of indus-

try: the immense commerce which will adjust the interchanges of so vast a surface, so variously occupied: the union by public works of the fluvial arteries descending opposite slopes: the connections with the external continents: and the forms of States, rising consecutively till they shall number ONE HUNDRED: All these successive events become the current creations of a natural order of progress, and will be the easy deductions of exact calculation of time from statistical data.

To come finally to solve the question of the construction of the *Pacific Railroad*, it is necessary to analyze the present condition of commerce, both of our own and external countries: how far it is friendly or hostile to the immense modifications such a new route will engender: to probe the temper and force of political power and jealousies: to reason out and balance the friendly and hostile elements that bear upon it: and finally, to subject to the most searching scrutiny the *topographical* character of the immense space of our continent interrupted by the "Plateau of the Table Lands," the great mountain ranges of the Sierra Madre, and the Andes, with their external slopes. To such a complete discussion, this is preliminary.

CHAPTER II.

I HAVE mentioned in the preceding chapter, in which I endeavored to delineate, in a condensed form, the abstract *geographical elements* of our continent, that I had compiled, with great labor, a map, exhibiting to the eye, as it were in daguerreotype, what is so difficult to make comprehensible in writing to the popular mind.

In truth, this simple classification has long ago suggested itself to me, resulting from observations made and facts collected during immense journeys, which I have made out to the rim of the continent, on all its coasts—sometimes as a solitary pioneer, and at others in the military service. These wanderings have extended over thirty years of time, and more than one hundred thousand miles!

Uncertain as to the accuracy of these facts, long rendered indistinct and hazy by the vastness of the details—finding myself everywhere repelled by the *soi-disant* learned in science and politics; and being, also, without the pecuniary means to reach *the people*, it is only now that I venture to appear before them. Neither do I rely upon my own reflections exclusively.

The world has lately received from the learned Humboldt his two works, "Cosmos" and "The Aspects of Nature." This pre-eminent veteran in science commenced sixty years ago to hive and condense the truths that he now gives us in these small volumes. Nine years were then given by him to exploration and study among the *Andes of South America and Mexico*, and subsequently ten years among the Himalayas of Central Asia. It is only now, at the age of *eighty* years, that he ventures to give to the world the condensed *quintessence* of a whole life of travel, intense study, rigid analysis, and meditation.

Though not clearly known to him (for he has not visited our country, or been able to collect the material, to supply this deficiency, from others), he has, in his delineations of Peru and Mexico, exactly sketched our own Andes in California and Oregon.

His descriptions of the great PLATEAUX of Central Asia, the Caspian Sea, and Thibet, with their surrounding mountain chains, applied to our continent, solve for us the enigma of our own geography. Indeed, if the continent of Asia be turned at right angles, so that Siberia should face the rising sun, it would almost exactly resemble and explain all North America included between the *trough* of the Mississippi and the Pacific. In short, in these small volumes—"Notes on Virginia" and "Cosmos" —of the brave apostles of truth, Jefferson and Humboldt,—in these we have condensed facts enough to guide us to the most distinct and perfect solution of the whole scheme of our own *continental geography*.

To resume, then, the discussion of *geographical facts*, and approach cautiously, step by step, the *location* made by nature for the CONTINENTAL RAILROAD, we must have clearly in the mind the great central crest of the SIERRA MADRE, and the two sides of the continent sloping on either hand to the oceans. Very many great rivers, bursting from the eastern mountain flank, descend, without rapids, by the Mississippi to the Gulf; by the St. Lawrence to the North Atlantic. Even the Alleghanies, having but 2000 feet elevation, present but a secondary obstacle.

Abundant routes exist, therefore, whereby a railroad may pass up from the *eastern* coast line of the continent to the flanks of the SIERRA MADRE. Whatever slight elevations may exist in the general surface, they are all perforated successively by continuous rivers, whose banks offer water-grades uninterrupted during the whole ascent. *No difficulty here presents itself.*

But "that side of the American continent which may be defined to front *Asia*, and sheds its waters in that direction, has these four characteristic divisions: the *maritime* front, the ANDES, the PLATEAU OF THE TABLE LANDS, and the SIERRA MADRE; all extending the whole length,

from south to north, parallel to one another, and covering, in the aggregate, two-fifths of its whole area."

The *maritime* front is narrow, has many small streams in which the flowing tide reaches the base of the ANDES, and presents no obstacles of any significance. Through the *two* Cordilleras, the ANDES, and the SIERRA MADRE, which flank and elevate themselves above the level of the TABLE LANDS, are many passes admitting of the passage of railroads, but merely from the outside on to the Table Lands within.

The TABLE LANDS are, however, ribbed by latitudinal ranges of mountains, of immense bulk and height. The solution, therefore, condenses itself to the discovery of a *single* line, whereby the Sierra Madre, the ribs of the TABLE LANDS, the lofty crest of the Andes, and its abrupt western wall, may all be continuously and consecutively overcome, surmounted, or evaded.

I quote from a memoir given to the public by myself, some years ago, this description of the Table Lands:—

The distance to the Pacific from the top of the Sierra Madre (Rocky Mountains), where you leave behind the waters flowing to the Atlantic, is everywhere some 1500 miles. The *topographical* character of this *ultramontane* region is very grand and characteristic. It is identical with the region at the sources of the La Plata, Amazon, and Magdalena, of *South* America, but more immense.

Sketched by its great outlines it is simply this: The chain of the Andes, debouching north from the *Isthmus*, opens like the letter Y into two primary chains (Cordilleras). On the right, the Sierra Madre, trending along the coast of the Mexican Gulf; divides the Northern Continent almost centrally, forming an unbroken water-shed to Behring's Strait. On the left, the Andes follows the coast of the Pacific, warps around the Gulf of California, and, passing along the coast of California and Oregon (under the name of Sierra Nevada), terminates also near Behring's Strait.

The immense interval between these chains is a succession of *intra*-montane basins, *seven* in number, and ranging from south to north. The whole forms the great Plateau of the Table Lands.

First, is the "Basin of the City of Mexico," receiving the *interior* drainage of both Cordilleras, which waters, having no outlet to either ocean, are dispersed again by evaporation.

Second, the "Bolson de Mapimi," collecting into the Laguna the streams draining many States, from San Luis Potosi to Coahuila, also without any outflow to either ocean.

Third, the "Basin of the Del Norte," whose vast area feeds the Rio

del Norte, the Conchos, and Pecos. These, concentrated into the Rio Grande del Norte, behind the Sierra Madre, have, by their united volume, burst through its wall and found an outlet towards the Atlantic. The *geological* character of this basin, its altitude, its configuration and locality, all assign it this position, as distinguishing it from all others contributing their waters to the Atlantic.

Fourth, the "Basin of the Great Colorado of the West." This immense basin embraces *above* the great rivers Rio Verde and Rio Grande, whose confluent waters, penetrating the mighty Cordillera of the Andes athwart, from base to base, discharge themselves into the Gulf of California. Into this sublime gorge (*the Cañon of the Colorado*) the human eye has never swept for an interval of 575 miles. So stern a character does Nature assume where such stupendous mountains resist the passage of such mighty rivers.

Fifth, the "Basin of the Great Salt Lake," like the Caspian of Asia, containing many small basins within one great rim, and losing its scattered waters by evaporation, has no outflow to either ocean.

Sixth, the "Basin of the Columbia," lying across the northern flanks of the two last, and grand above them all in position and configuration. Many great rivers, besides the Snake and Upper Columbia, descend from the great arc of the Sierra Madre, where it circles towards the northwest from 43° to 52°, flow from *east* to *west* and concentrate above the *Cascades* into a single trunk. This here strikes the mighty Cordillera of the Andes (narrowed to one ridge), and disgorges itself through this sublime pass at once into the open Pacific.

It is *here*, descending by the grade of this river the whole distance from the rim of the Valley of the Mississippi, and through the Andes to the Pacific, that the great *debouch* of the American Continent towards the *West* is found; and here will be the pathway of future generations of the New World, as the people of the Old World pass down the Mediterranean and out by Gibraltar.

Above, the "Basin of Frazer River" forms a *seventh* of the TABLE LANDS. This has burst a cañon through the Andes, and, like the fourth and sixth basins, sends its waters to the Pacific. With the geography of the more northern region we are imperfectly acquainted, knowing, however, that from Puget Sound to Behring's Strait the wall of the Andes forms the beach itself of the Pacific, whilst the Sierra Madre forms the western rim of the basins of the Saskatchewan of Hudson Bay, and the Athabasca of the Arctic Seas.

Thus, then, briefly we arrive at this great cardinal department of the geography of the continent, viz.: the TABLE LANDS,—being a longitudi-

nal section (about two-sevenths of its whole area), intermediate between the two oceans, but walled off from both, and having but *three* outlets for its waters, viz.: the cañons of the Rio Grande, the Colorado, and the Columbia. Columnar basalt forms the basement of this whole region, and volcanic action is everywhere prominent.

Its general level, ascertained upon the lakes of the different basins, is about 6000 feet above the sea. Rain seldom falls, and timber is rare. The ranges of mountains which separate the basins are often rugged, and capped with perpetual snow, whilst isolated masses of great height elevate themselves from the plains. This whole formation abounds in the precious metals. Such is the region of the TABLE LANDS.

Beyond these is the Pacific MARITIME region. The great wall of the ANDES, receding from the beach of the Pacific, leaves between itself and the sea a half valley, as it were, forming the seaboard slope from San Diego to the Straits of Juan de Fuca. This is 1200 miles in length, and 200 broad. Across it descend to the sea a series of fine rivers, ranging from *south* to *north*, like the little streams descending from the Alleghanies to the Atlantic. These are the San Gabriel, the Buenaventura, the San Joachim and Sacramento, the Rogue, Tlameth, and Umqua Rivers: the Wallamette and Columbia, the Cowlitz, Chekalis, and Nasqually, of Puget Sound.

This resembles and balances the *maritime* slope of the Atlantic side of the continent; but it is vastly larger superficially; of the highest agricultural excellence; basaltic in formation; grand beyond the powers of description. The snowy points and volcanoes of the Andes are everywhere visible from the sea; whilst its climate is entirely exempt from the frosts of winter.

The configuration of the Sierra Madre (the Mother Mountain of the world) is transcendently massive and sublime. Rising from a basement whose roots spread out 2000 miles and more, its crest splits almost centrally the *Northern Continent*, and divides its waters to the two oceans.

Novel terms have been introduced to define its characteristics. *Mesa*, expresses the level plateaux of its summits. *Cañon*, the gorges rent in its slopes by the descending rivers. *Bute*, the conical mountains isolated and trimmed into symmetrical peaks by atmospheric corrosion.

Everybody has seen the card-houses built by children in the nursery. Suppose three of these in a row, having a second story over the centre: this toy familiarly delineates a transverse section of the Sierra Madre. The top of this upper story represents the central primary *mesa* of the Cordillera—its summit a great plain, descending on both flanks by a perpendicular wall of 6000 feet to the level of the *second mesa*, or steppe.

Towards the west the second mesa fills the whole space to the Andes, whose farther side descends abruptly to the tide-level of the Pacific. This is again what has been before described at length as the GREAT TABLE LANDS.

But towards the east the *second* mesa forms a piedmont, rent into peaks by the fissures of innumerable streams. This piedmont, called by us the Black Hills, masks the front of the Sierra Madre from end to end. So completely is it torn and rent by the perplexity of water-courses, that patches alone are left to define the original plateau. These are the eastern envelope of the basin of the Yellowstone, the Laramie Plain (between the Plattes), the Ratone and the Llano Estacado of Texas. Beneath this the *third mesa* (or steppe) is that superlative region, the GREAT PRAIRIE PLAINS, whose gentle slope forms a *glacis* to the Gulf through Texas, and in front to the *trough* formed by the Mississippi River from Itasca Lake to the Balize.

It is this vastness of geographical configuration which leads the *glance* of the engineer with unerring certainty to that line of natural grades from ocean to ocean, the discovery of which mankind now awaits with the keenest interest, and along which the American nation is resolved to construct the consummate work of art—THE ASIATIC AND EUROPEAN RAILWAY.

Advancing north along the *comb* of the Sierra Madre from below Mexico, you find at the sources of the Platte (Sweetwater) a wide gap, where, the high mesa suddenly giving out for the space of forty miles, the second mesa passes through from east to west, the continued water-ridge being scarcely perceptible among its gentle undulations. *This is the "South Pass."*

It is so named as being the *most southern* pass to which you may ascend by an affluent of the Atlantic, and step immediately over, to a stream descending directly to the Pacific. This name is as ancient as the pass itself. Into it concentrate the great trails of the buffalo, geographers and road-makers by *instinct*, before the coming of man.

The Indian, the Mexican, and the American, successors of one another, have not improved or deflected from the instincts of the buffalo, nor will they, whilst the mountains last in their present unshattered bulk. The *South Pass* has a towering grandeur, in keeping with the rivers between which it is the avenue (the Missouri, the Colorado, and the Columbia), all of which, issuing from the wall of the Wind River Mountain, come out of it upon the second mesa, *at the same level*, and into which they immediately commence burrowing their cañons of descent to the seas.

Here, then, is the route, the *southern* route, of the National Railroad,

ascending by the water-grade of the Platte to the top of the second mesa, where it forms the summit, following the level of this mesa along the base of the high mesa, to the Columbia (Snake River), and descending its water-grade clear to the Pacific.

The distance from the Platte to the Columbia has not been accurately ascertained, though by the present wagon-road, which crosses a corner of the *Salt Basin*, it is less than 300 miles. Here is that double-inclined plane, to find which has been the first essential in every line of transportation existing in the world. There is none *south* of this, because everywhere the basins of the Table Lands overlap and envelop one another, so that the passes lead merely from one of these into another; nor are there any natural tunnels through the precipitous walls of the Andes, and between the basins.

The Columbia, running *across* the Table Lands from east to west, distributes the descent of 8500 feet equally along its course of 1200 miles, and tunnels the great ranges of Blue Mountains and the Andes. This whole course of the river is a continuity of rapids, having three falls, the American Falls of thirty feet at Portneuf, the Salmon Falls of forty-five feet, 200 miles below, and the Chuttes of twelve feet, near the Dalles. This river-grade is then as rapid as the descent to be accomplished will admit of; for, distributed into long levels and steep grades, it would immensely impair the utility of the whole work, and fatally impede transportation.

The great Colorado runs diagonally across the TABLE LANDS, *debouching* into the Gulf of California; but has its course and those of its great affluents parallel with the mountain ranges, which are scored with unfathomed cañons, perplexing the traveller with an infinity of impassable ridges, among which the water-courses are embowelled.

Here is that immense and complex labyrinth of mountain ribs, whose great height and arid character have *heretofore* defied every effort to explore or penetrate. Its impenetrability cannot be made to yield to art, *in a direct line*, owing to the whole space from the Sierra Madre to the Pacific, bristling with parallel ribs of snowy mountains.

The rivers penetrate these diagonally, and are sunk in cañons, burrowed deep into their roots. North of the South Pass, however, exist many *single* passes, where the higher branches of the Missouri and Columbia interlock. These circuitous routes have all the same termini as that of the *South Pass*, for they also descend the same two rivers to the seas.

Thus between the South Pass and the Isthmus of Tehuantepec there exists no *straight* railroad route, owing to the longitudinal courses of the rivers, the complexity of the basins, and the double barrier of primary

mountain chains. To the north, other passes exist, which future generations may develop, and on which navigation may be used for four-fifths of the whole distance.

True it is that potential fashion now exalts the *maritime* basin of California, San Francisco Bay, into the haven of hope and fortune of the new seaboard, whilst the sublime basin of the Columbia and its magnificent *river harbors* are banished from public favor. The basin of San Francisco is small, and an isolated spot to reach from the interior. No great river gives it access to the Mississippi Valley, from which it is cut off by the basins of the Salt Lake, the Colorado, and the Del Norte, overlapping each other.

The Columbia is larger than the Danube, and equal to the Ganges. In size, climate, agricultural excellence, capacity for population, and its wonderful circular configuration, the basin of the Columbia surpasses both of these others. The mouth of the Columbia, a salient point upon the open coast, more than any other central and convenient to the whole North Pacific and Asia, is, in size, depth of water, safety, and facility of ingress or egress, equal to San Francisco. As the mouth of the greatest river descending from our continent into the Pacific, it is perhaps more valuable. It is eight degrees south of Liverpool, having the climate of Bordeaux, Marseilles, or Savannah.

Why is not the deep sea navigation concentrated at *Norfolk*, on Hampton Roads, the finest harbor of the whole Atlantic? Why, rather, is it found at New York and New Orleans, accessible only through every danger that can menace shipping? Why, because the former is the outlet of the basin of the St. Lawrence, the latter of the Mississippi. The shipping of commerce goes to where cargoes can be found.

Less than fifty years ago, *fashion* pronounced the little ravines of James River and the Connecticut the proud spots of America, and held the great uninhabitable wastes of the Mississippi and its *unnavigated* streams as worthy only to balance *codfish!*

This same splenetic spirit of *fashion* now manufactures a similarly ridiculous misdirection for the energy of the pioneers, by setting up what the geologist would call a "pot-hole of the Andes," against the grand Columbia. Commerce, provident like every other department of industry, makes herself harbors with charts, pilots, buoys, and beacons. The shallowest channel of the Columbia has thirty-five feet of water—the deepest of New York twenty-nine.

Thus does NATURE, piously appealed to, and calmly consulted, exhaust, bring to a close, and settle, by eternal *facts*, the various *opinions* which

perplex the public mind in locating the *continental railroad.* The national will must wisely listen to and obey her promptings. Postponement, defeat, and failure will overwhelm every effort to depart from the water-grade, or to penetrate, perforate, or surmount in any other way the Titanic rigidity of the table lands.

The obstinate advocacy of any other route is insidious and hostile in the lump to the work entirely. The *water-grade of the continent* is simply this:—The road, leaving the west bank of the Missouri, pursues the Platte River along the facile ascent of its south bank to the South Pass; this is some 750 miles: thence along the smooth *level* of the South Pass, 250 miles to Snake River: thence down the facile descent of Snake River to the Columbia, 900 miles. This route is the *shortest* and best across America; it is, in practical fact, a *level* from end to end; the grading is complete throughout; the mountains are all tunnelled; the climate dry and propitious.

There remain to be described the peculiarities of climate, and the bearing upon our subject of the immense interests of *ocean* commerce and political power.

CHAPTER III.

IN two former chapters I have endeavored to grasp the geographical view of the CONTINENTAL RAILWAY—to winnow its immense complexity—to shake loose a few simple *facts* engorged in obscurity—and to stand face to face and in council with Nature.

We have seen that *Nature*, thus candidly appealed to, leads us point blank to the supreme pass of the continent, the SOUTH PASS, and thence traces with her unerring finger to the right, and to the left, the double water-grade to the seas—by the Platte to the Atlantic, by the Snake River to the Pacific.

But public opinion is perplexed by a systematic obscuration of *facts*, long and vehemently repeated, in other things besides geography. This route is pronounced *northern;* the *climate* hostile; accumulated snows are insisted upon; the Indians impracticable; the work itself herculean; population, provisions, material to build, and work for the road, wanting; the length of the road is pronounced insuperable, and its cost enormous. These objections all fall absolutely before a few *facts* of nature, here eminently clear and emphatic. Let us appeal to them and decide!

CLIMATE controls the migrations of the human race, which have steadily adhered to an "*isothermal zodiac*," or belt of equal warmth, around the world. The extremely mild temperature of our *western* seaboard is the consequence of the same great laws of nature which operate in *Western* Europe. These are the regular and fixed ordinances of the code of nature, to which the migrations of man, in common with the animals, yield an instinctive obedience.

Within the *torrid* zone of the globe, from the equator to the 28th degree of north latitude, blow the *trade winds* and *variables*, always *from* the east and northeast, all round the world. But in the succeeding belt from 28° to 60°, the winds have an opposite or compensating direction, *from* the west and southwest, all round the globe.

These latter wind-currents reach the *western* coasts of America and Europe after traversing the expanse of the Pacific and Atlantic Oceans. Warmed to the temperature of these oceans, they *impart* again this same mild atmosphere to the maritime fronts of the continents which receive them. These same winds, passing onward over great extensions of continent of low temperature, covered with snow or frozen during winter: often warped upwards by mountain ranges, becoming exhausted of their warmth, have, upon the *eastern* expansions of the continents, an exactly opposite effect upon the climate.

Hence the variant temperature of New York, and Lisbon, in Portugal, which face one another, on opposite sides of the Atlantic—of San Francisco, and Pekin, in China, similarly opposite, upon the Pacific.

At San Francisco and at Lisbon, the seasons are but modulations of one continuous summer. At New York and at Pekin, winter annually suspends vegetation during seven months, whilst ice and snow bind up the land and waters. These four cities are all close upon the same parallel of latitude, the *fortieth* degree north.

Thus is it manifest why in Asia the mass of population is congregated on and south of the *fortieth* degree, and in Europe north of it. In America it again curves to the *south* on the *eastern* face of our continent, to rise northward again on the warm Pacific coast. Within this undulating belt of the *north temperate zone*, in breadth about thirty-three degrees, are included four-fifths of all the land and nine-tenths of the world's population.

Here has been the progressive march of the human race round the world, commencing in the farthest *Orient*, and forming a zodiac of nations towards the setting sun. In this have been retained similar tastes, similar industrial pursuits, similar food and clothing, requiring similarity of climate, and recoiling alike from the *torrid* and from the *arctic* zones.

If, then, the mind retains the simple facts, that all our present territory between the oceans lies within this zone, where the winds flow always *from* the west, we arrive at the solution, as well of the different modifications of climate along the same parallel of latitude, as of the variety in the vegetable covering of the surface:—*why the eastern portion* is clothed with dense forests, the *central portion* with prairie grasses only, and why the great fertile plains of the high mountains and of the *Table Lands* are yet of an arid hardness and naked of all *arborescence.*

The amount of irrigating rains falling upon the face of the land from the *clouds*, regulates this. The oceans are the reservoirs which supply clouds to the atmosphere. The vapors, rising from the whole surface of the ocean into the higher regions of the atmosphere, form themselves, at a cold elevation, into natural balloons, or clouds.

These, carried by currents of air over the land, and rising still higher, become condensed and distil themselves upon the earth in the form of rain. Those holding vapor in the form least concentrated, spill it out in the regions near the sea. Others attain to a high degree of concentration, retaining the form of clouds until they reach the central regions of the continents and a great elevation.

But we have seen that the great *snowy* Cordillera of the Andes lines the whole *western* seaboard of North America, being in sight of vessels sailing up the sea, from the Gulf of California to Behring's Strait. The winds coming from the *west* and over the ocean, blow against this wall. On this elevated summit of perpetual congelation, water becomes ice, as solid and permanent as the cold lava-rock. The irrigating influence of the *Pacific Ocean* is here abruptly stopped and entirely ceases.

The great *eastern* slope of *our* continent, however, descending by gentle inclined planes to all the seas, receives, without any geographical interruption, the irrigating winds and clouds of those seas. The barrier of the Alleghanies *diminishes*, but does not *stop*, the inflowing of vapors. But we have seen that the winds blow perpetually *from* the *west*. The inward progress, then, of the atmospheric vapors is by this continually repelled.

The *vegetation* of the continent reveals to us the result of this conflict between winds and the gradual exhaustion of the atmospheric vapors, with an exactness as complete as that with which the thermometer indicates temperature.

The *maritime declivity*, the Alleghanies, and the countries between the latter and the *troughs* of the Mississippi and St. Lawrence, are densely clad with timber. So are the States of Louisiana, Arkansas, and *South* Missouri; receiving clouds from the Gulf partly, and partly from the Atlantic. *Westward* and *northward* the timber gradually tapers away; still following in

narrow lines along the rivers, but leaving the uplands and ridges to the luxuriant prairie grasses. Soon, however, the *timber* abandons its struggle to grow, and ceases entirely.

Onward, however, from the last fringe of timber, for some hundred miles, the irrigation continues to preserve the mellowness of the soil, and a sward of tall, luxuriant grasses covers the whole smooth expanse of nature. This, in turn, gradually dwarfs under the decreasing irrigation, tapering into the delicate curled grass of the buffalo plains, which is scarce half an inch in height, and resembles the wool of a lamb.

Finally, grass itself fails, and the general characteristic of the surface of the great Sierra Madre and the plateau of the Table Lands is total nakedness of any nutritious vegetable covering. The soil is either compactly hard, or resembles dry ashes. The surface is here sparsely clothed with dwarfed wormwood and the prickly pear,—funereal plants, which seem as careless of moisture as is the salamander of fire.

Such are the great primary laws of Nature which decide the climate and vegetation of our continent. Interruptions and modifications of these laws are innumerable. *Nature is everywhere wise.* Compensations exist in all these countries, so eccentrically novel to us, which will win for them the densest populations. No deserts of silicious sand, like those of Arabia and Africa, exist in America, nor are such possible. The only formation of silicious sand is the Atlantic declivity, whose soil soon wastes under culture; and the ocean washes *this*.

The great bowl made up of the basins of the interior is everywhere *calcareous*. The soil which covers the two great Cordilleras, the TABLE LANDS and the Pacific declivity, is the intrinsically fertile decay of basaltic and lava formations. *Thirst alone* causes its nakedness and apparent aridity. Where this thirst is quenched with a frugal supply of water, it shows an abundant and inexhaustible fertility. Great rivers are everywhere full and convenient.

Thus are all the successive varieties of climate, vegetation, and soil explained by the gradual attenuation of the rains, as we recede from the ocean. *Vice versa*, these conditions of the atmosphere and land attest the absence of vapor in the former. All secondary phenomena, such as the annual fires of the great prairies of long grass, are consequences of the aridity of the autumnal and winter atmosphere, and not *causes* of the absence of timber.

Again, the elevation of the plain of the *South Pass* is 7800 feet above the sea. The streams which collect and carry off its waters—Sweetwater to the east and Sandy to the west—are only large *rivulets*, though their courses are long. The amount of rain in summer and *snow in winter*

upon the water-grade of the Platte and Snake Rivers, and in the South Pass between them, is so insignificant as to bear no comparison in amount with those between Boston and Buffalo!

But the stupendous masses of the Wind River Mountains rise in the northern horizon of the South Pass to an altitude of 14,000 feet. Their great elevation draws down the vapors left in the atmosphere, which clothe their summits with perpetual, and their flanks with winter snows.

These supply waters to the great rivers, and cover the flanks and gorges of the great mountains with immense forests. The same is the case elsewhere with the great *primary* mountain chains, such as the Utah or Wasatch and the Salmon River Mountains. But the *secondary* mountains and passes are entirely naked of timber, having upon them neither rains nor snows at any season.

But an extraordinary *fact* here develops itself. If from the point where the junction of several small streams forms the Kansas River, 120 miles due west from the Missouri River, *as a centre*, a circle be described touching the boundary line of 49° as a tangent, the opposite side of the circle will pass through the seaport of Matagorda in Texas, through New Orleans and Mobile. This point is, therefore, the *centre*, north and south, of our country. If from the *same centre* a larger circle be described, it will pass through San Francisco, and through Vancouver City, on the Columbia, exactly grazing the whole coast between them. The same circle will pass through Quebec and Boston on the Atlantic, through *Havana* on the Gulf, and through the city of *Mexico*. The same point is then the *centre* between the oceans.

Thus, at the forks of the Kansas River a point exists, in latitude 38° 45′, and longitude 97° west of Greenwich, which is the GEOGRAPHICAL CENTRE—north and south, east and west—at once of our whole national territory, of the basin of the *Mississippi*, and of the continent of North America!

The *facts*, then, which concentrate themselves to locate the *Continental Railway* at the line of water-grades from ocean to ocean, sum themselves up conclusively in its favor and against all others.

From Baltimore and New York, through St. Louis to Kansas, this road is now under contract and construction. For this distance the route traverses a country guttered with rivers: interrupted by the narrow and abrupt ribs of the Alleghany chain: covered with timber: having a fitful climate vexed with immense rains and snows: the surface infinitely channelled with water-courses and perplexed with innumerable ravines, alternating with steep and narrow hills.

Yet this half of the whole road progresses over all these difficulties

with such ease and celerity, that argument of its impracticability is not tolerated. But against the remaining half of the road, from Kansas to Astoria, these arguments are tolerated, though in truth they have all ceased, and such obstructions and impediments have no existence in *nature*.

The remaining *half* from Kansas to Astoria crosses no river of any magnitude, yet pursues the banks of great rivers continuously the whole distance. The banks of these rivers, rising but a few feet above the water surface, are of immense width, perfectly hard and dry, and smooth as a water level. Such is the general characteristic of the Platte and Columbia from end to end.

The plain of the *South Pass* is almost as smooth and hard as a marble pavement, and is of a general breadth exceeding thirty miles. Not a single eminence exists in the whole distance but is tunnelled by these rivers down to the general grade. On the track everywhere is material in every variety of form and in the sublimest abundance.

Lumber exists in abundance in the high mountains to the right and left. Iron can be supplied at the ends and upon the navigable rivers, brought from Europe if necessary, as it now comes for nearly all the railroads in America. Mineral coal is abundant from end to end. Rock in every variety—granite, basalt, lava, limestone, and gypsum. The Platte perforates a great range of mountains of *gypsum*; the Snake River a less one of *rock-salt*.

This route is not *northern*, but *exactly central*. The sublime order and fitness of Nature seems here pre-eminently to vindicate and exemplify itself. Upon the Kansas River it plumbs the geographical centre of the national territory. From hence it curves northward to Baltimore, the most *southern* Atlantic city of great commercial activity. It curves gently to the northward to the mouth of the Columbia. This is in latitude 46° 19′, being three degrees south of Havre in France, and eight degrees south of Liverpool and Amsterdam.

Yet the climate of Western America is milder than that of Western Europe. It is also upon the coasts extending fifteen degrees north of the Columbia that the *marine* of the Pacific will be constructed, as here are combined the conveniences of sea-harbors and forests. It is in the Baltic and British Isles that all the *marine* of Europe is built and owned. It is likewise on the St. Lawrence and in New England that the *marine* of America is constructed and owned.

To speak of the obstruction of *Indians* upon the route is a monstrous *burlesque*. The whole aggregate number of men, women, and children, within several hundred miles along the flanks of this route, does not amount to *nine thousand*, or one-fifth of the population of Washington

City! The most moderate pay would make of them valuable herders of stock, and hunters. The pastures now maintain meat upon the hoof, or buffalo, to the amount of many millions. A *hundred millions* of tame cattle will maintain themselves in the buffalo country, fat in condition round the year. *Beef* is the appropriate food of these dry and high altitudes.

The *eastern* half of this route, from Baltimore to Kansas, traverses very centrally the densest population, the largest production and consumption, and consequently the line of greatest travel and commerce. The same will be the case with the *western* half as soon as the *burlesque* of "Indian occupation" is brushed out of the way. The immense mass of pioneers in all the elder States chafes to issue out and cover this delightful country with republics.

The country embracing the sources of the Sweetwater, Colorado, and Snake Rivers is a gold country, equalling California or Brazil, but inaccessible to ocean navigation. The climate does not, equally as in these latter countries, pulverize and disintegrate the rock. The gold is in a matrix of quartz. The hard porphyry and lava will descend in immense quantities, and thus economize the paving of the cities of the Valley of the Mississippi.

One natural production of the eastern edge of the TABLE LANDS will soon repay the cost of the construction of this road. This is SALT.

There are mountains near the sources of Snake River, composed of stratified masses of *rock-salt*—just as other river bluffs are of limestone. This, quarried with light tools, and ground to powder, as grain is reduced to flour, is the pure alum salt of commerce. Every living soul of America uses salt thrice per day. Every animal requires it as frequently. Every ounce of provisions is preserved with it. It is mixed with hay, and preserves timber. It is used in the manufactures and fine arts. Brought hence down to the focal point of navigation in Missouri, this State will become the distributing point of this most valuable, greatest, and most indispensable article of commerce.

By the last national census, the annual production of our country reaches the value of *three thousand millions* of dollars. Seventy-five per cent. of this is *food*, which finds no market among the comparatively limited population of Europe, 205,000,000, who feed themselves.

Around the *Pacific*, in front of Astoria, are 745,000,000 of hungry ASIATICS and *Polynesians*, who have groceries, clothing, spices, and porcelain, to exchange for meat and grain.

But the *western* half of this road departs from the bank of the Missouri, to which all America has access at this hour by the navigable

rivers; and from Astoria these millions of consumers may be reached directly, over a tranquil ocean and under a *temperate* atmosphere: the equatorial heats are only encountered last and at the place of final delivery.

No doubt, in the populous, central, food-producing States of Iowa, Missouri, Arkansas, and Illinois, *three hundred millions* of dollars' worth of produce of industry fail annually to find a market, and the profit thereon perishes, for want of this road *out* from the centre to the *north*western coast!

But it is important that the *people* receive with candor, and allow due weight to, the overwhelming and conclusive proofs in favor of this route of the water-grades, which Nature, all recorded human experience, and the solid *science* of civil engineering, conspire to submit to their judgment. *Nature* is the supreme engineer; *art* is prosperous only whilst adhering to her teachings.

We have seen in what a simple and sublime harmony the *invisible* force of Nature elevates vapors from the sea, forms them into cloud balloons in the upper atmosphere, and *transports* them on currents of air over the continents; how these become condensed and distil themselves over the face of the land in the form of irrigating rains.

This water having performed its renovating duty, by filtering through the surface soil, begins again to collect: first in remote hollows and undulations: these unite into rivulets: rivulets into larger streams: streams into rivers: rivers into the great fresh-water *troughs*, which return this drainage from the land, to mix with the salt of the ocean, to be renovated and perform again their part in the *circulation* of nature.

Now, the use of *public works* to human society is the same as are her works to Nature: to bring in and distribute clothing and groceries; to collect and carry *out* surplus food and productions of every variety.

In the transferring to and fro of the waters of the universe, Nature accomplishes as much heavy transportation in a few hours as will suffice the social wants of America for a century. This, then, is all that is *sound* in civil engineering, and comprehends all the good that it *has* and *can* do for human society:—to select those *water-grades* where, in further imitation of Nature, human energy may smooth the asperities and economically adapt to use the curves and grades with which she has everywhere furnished the face of the land.

Thus, then, to recapitulate and sum up the array of facts which concentrate themselves to decide the *location* of the CONTINENTAL RAILWAY. *Nature* and all sound human experience unite to select the *water-grade* of the Platte and Snake Rivers, and against any departure from it.

If this route deflects at all from an exact *centrality*, it is to the *south*, and not towards the north, that it bears. Its two halves, diverging from the *centre*, give the *shortest* lines to the sea, through the countries and populations where the work to be done is the greatest, and the necessity for it most immediate, pressing, and lasting.

One-half is located and under construction. As a *through* road it is the *shortest* line across North America, most conveniently connecting ASIA and EUROPE *by the perpetual line of way travel of all people.* Though meandering *among* immense mountain chains, it passes them all by tunnels completely made by nature.

Neither snow nor rain, nor great rivers, embarrass either its construction or its after-use: the climate is pre-eminently propitious: material to construct is conveniently at hand, at easy intervals on the right and left: fuel and water abundant forever. The *pastoral* excellence of the whole region, combined with a dry atmosphere and health, supplying meat-food and transportation indefinitely, will render easy the immediate influx and residence of an immense population.

The vicinity where the great *Sierra Madre* is penetrated, and where *five* great rivers have their sources together, is prodigiously prolific in salt, hard rock for architecture and paving, medicinal hot springs, all the precious metals and jewels, furs, lumber, and the hides of animals.

If I have delineated with any success, and explained correctly the features of *Nature*, in geography, climate, and topography, there remains to examine the bearing upon this work of the combined hostile influence of *ocean* commerce allied with politics. Why this great central route, successfully opened in the time of Jefferson and by the energy of Astor, was attacked, stopped, and finally *shut up*, under President Monroe. And why its reopening is still hampered and postponed by the same remorseless and unrelenting enemies.

VI.

THE HEMP-GROWING REGION.

THERE is a region of *Missouri* and *Kansas* of rapidly rising fame and importance, gaining for itself a State and a national reputation, which we will define as the "*Region of the Hemp Culture.*" Specially favored by nature in its geographical locality, climate, navigation, and superlative fertility, this region has become the seat of a hemp culture which has a strong, organized, and national foundation.

The hemp culture receives special attention in twenty counties of Western Missouri, bisected by the Missouri River, and all adjacent to its two shores. They form a belt of land east and west, enclosed between the 38th and 40th degrees of latitude.

Here is the production of these counties in hemp, in order as they lie along the river—census of 1850:

Jackson,	Cole,	Platte,	Howard,
Lafayette,	Cass,	Clay,	Boone,
Saline,	Johnson,	Ray,	Clinton,
Cooper,	Pettis,	Carroll,	Randolph,
Moniteau,	Miller,	Chariton,	Buchanan.

The aggregate of annual production being 14,173 tons, or 28,346,000 pounds.

Since 1850, the hemp culture has increased in vigor, both in the land assigned to its culture and in the application of machinery to its production and manufacture. The production of that year, within the above region, was 28,346,000 pounds, estimating the ton at 2000 pounds; and that of the whole State 16,119 tons, or 32,238,000 pounds.

The course of the Missouri River through this region of superlative fertility may be compared to the Nile flowing through Lower Egypt to the Mediterranean. It is in the ability of an abundant and bounteous production that this comparison holds, but not in temperature, climate, or physical features.

In Egypt, the arable and inhabitable district is limited to the ravine of the Nile, which is overflowed and irrigated by its waters; beyond this the

primeval desert reigns everywhere supreme. With us, the same fertility characterises the borders of the stream, which has the same abundance of fertilising waters, the same splendid navigation, the same solemnity in its ever-flowing channel, and the same redundancy of benignant attributes which have deified the Nile.

But, on every side, from the gently elevated crest that bounds the ravine of the Missouri, expands, with a radius of 1000 miles, that variegated *calcareous* plain, which we define as the "*Basin of the Mississippi.*" This undulating plain has an area equal in capacity to all the other river basins of the world, and combines all their varieties.

So much does the mind revert to the *ocean* to explain by comparison its exquisite romantic beauty, at once immense and regular, that this hymn to the sea may with propriety describe it:

> "Thou glorious mirror, where the Almighty's form
> Glasses itself in tempests; in all time,
> Calm or convulsed—in breeze, or gale, or storm,
> Dark heaving;—boundless, endless, and sublime—
> The image of eternity—the throne
> Of the Invisible— . . . each zone
> Obeys thee; thou goest forth, dread, fathomless, alone!"

The current course of the Missouri and Mississippi Rivers is from north to south. The latter is so throughout its whole length.

The *Missouri*, after a southern course of 3000 miles, receives the Kansas River in latitude 39°, turns abruptly to the *east*, penetrates the State of Missouri, and bisects it from west to east, with a channel 400 miles in length. Into the *eastern* mouth of this channel, all the great *natural* lines of travel coming from the Atlantic by the St. Lawrence, Ohio, and South Mississippi Rivers, concentrate as rays to a focal point.

They are altogether carried forward to the central west at the mouth of the *Kansas*, where the unbroken prairie formation meets the river, and to which the radiant land routes over their expanse, coming from the Gulf of Mexico and the Pacific Ocean, similarly concentrate.

This channel is *now*, and is destined prospectively to remain, the most thronged and wonderful in the world. It is central, *east and west*, to the American Continent, to the Basin of the Mississippi, and to the American Union. It lies along the *axis* of that *isothermal temperate zone*, within which is the *zodiac* of nations, and is also the *axis* of the population, progress, travel, production, consumption, commerce, transportation, and habitation of the human race.

It is the highway from *Western* Europe to *Oriental* Asia. It is under that line of *latitude* where all things *northern* and *southern* meet and blend

together—where the day and night, the seasons of the year, labor, the growth of nature, and all the elements of human society and of the vegetable and animal world, have the widest range, the greatest variety, and the highest development.

Having a double shore, this channel has 800 miles of coast. It has the familiar accommodation and safety of a canal, a railroad, or a street.

Its depth of water and capacity for commerce will receive and carry forward the freightage of all the oceans and all the continents. Similar channels have been known and used in both ancient and modern times—such are the Lower Nile, the Bosphorus, and Dardanelles, the Strait of Hercules, the English Channel, the Baltic's mouth, the Hudson from New York to Albany—only this has greater length, divides more fertile shores, and connects more numerous hosts of nations.

Such is the *Hemp Region*. It has an altitude 1000 feet above the sea, a salubrity equal to the Table Lands, a fertility superior to the Delta of Louisiana, an unlimited area, a navigation better than the sea, a climate exactly congenial to the white man, a rural beauty forever graceful, fresh, and fascinating.

It is, on a vastly magnified scale, the counterpart of that delicious and classic Italy, traversed by the Po, dotted with cities, Venice, Verona, Mantua, Milan, of which SHAKSPEARE has written, and where VIRGIL and TASSO sung.

If an ellipse be described extending from the Osage mouth to Fort Riley, some 500 miles, and in breadth 300, it will contain that district of fat, lustrous soil, exuberant vegetation, graceful beauty, and abundant streams, where Nature has bountifully blended all her choicest gifts to locate the *rural quintessence* of America and of the world!

Stimulated by the inspiring splendor of their natural position, the vigorous population of this region have pursued agriculture, commerce, and manufactures with an ambition and success which indicate a growing empire in nothing unworthy of their prospective destiny.

Every department of production and industry has been tried, and all thrive. Hemp, tobacco, flax, the grape and wine, silk, sugar, the cereals and grasses; cattle of the finest breeds; agricultural machinery, flowers, steam, and mining. Society exalts its tone by a taste for religious edifices and eloquence; education receives great and universal care; music and refinement are zealously cultivated.

Apart from these fascinating gifts of Nature and the promise which germinates beneath their warmth, a *prestige* entwines itself with and illuminates the history of this region. This runs back to the golden time of the *patriarchal* founders of our *continental* empire; it stretches over the

dark chasm of seaboard monarchy, and has its fountain in the luminous Aurora and among the immortal patriots who limned out the profile of our *continental* empire, and inaugurated the march of our destinies.

We have here among us the graves of DANIEL BOONE, GEORGE ROGERS CLARKE, LACLEDE, and the names of JOHN JACOB ASTOR, LOUIS XVI. of France, LASALLE, and DE SOTO, great and intrepid men who led or befriended the pioneers, those stars which shone in the first twilight of empire. TO JEFFERSON and JACKSON we were known, and they have been known to us as our *friends*.

To understand this *prestige* and its strength, it is necessary briefly to select out and set apart to themselves a few facts in the history of progress, which stand along its path, and, like pyramids in the solitude, fix its remarkable epochs.

This system of civilized society, of which we Americans form a part, is very ancient, and is *inherited*.

HISTORY is the journal of its geographical progress, its vicissitudes, its struggles, and its energies. Where society has assumed its largest form and attained the highest level of civilization and longest endurance, it is defined to be an *empire*.

History chiefly occupies itself with the biography of these empires, their rise, culmination, and decadence. They have appeared, lived, and departed, like generations of men. They lie along a serpentine zone of the north hemisphere of the globe, within *an isothermal belt*, and form a ZODIAC thirty-five degrees in width.

The axis of this zodiac alternates above and below the 40th degree of latitude, as the neighborhood or remoteness of the oceans modifies the climates of the continents. These empires are the Chinese, the Indian, the Persian, the Grecian, the Roman, the Spanish, the British, and, last, the *Republican Empire* of North America. These are the essential ones in the regular order of time and upon the hereditary line of progress. It is here that the mass of land is the greatest, and where the continents most nearly approach one another.

This ZODIAC of nations contains *nine-tenths* of the white population of the globe, and all its civilization. The territory of the American people, extending across this continent, exactly fills this isothermal zone from edge to edge, occupying the whole connecting space between *Western* Europe and *Oriental* Asia.

It is on these two fronts of the old continents that the two halves of the human race are separately congregated, both fronting America and fronting one another, face to face, across America. The straight line of intercourse between them, only 10,000 miles in length, pursues the *axis*

of the isothermal zone, out of which it never deflects either into the torrid heats or the frozen north.

Here, then, is the tenacious, the divine instinct of progress and liberty, which fired the soul of COLUMBUS, of WASHINGTON, of JEFFERSON, and of JACKSON. In this faith they lived; this faith they vindicated and never betrayed; and in this faith they died, to inherit among posterity a supreme, untainted immortality.

This faith forms the inspiration of the Declaration of 1776, animated the patriarchal generation, and was renewed and codified in the Constitution of '87. It selected JEFFERSON in 1798, and JACKSON in 1828. Its eagles are now erected among the pioneers out in the wilderness, in Kansas, in Utah, in California, and in Oregon. Upon them are embossed the ancient rights of man, the *continental* union, the *continental* railroad, the *continental* cause!

During the administration of JEFFERSON, *central extension*, pursuing the *isothermal axis* through the continent, was prosecuted with great vigor as the favorite policy of the government. LEWIS and CLARKE reconnoitred and made known the character of the rivers, the mountains, and the connections of the Basins of the Mississippi and Columbia by direct passes. JOHN JACOB ASTOR planted trading colonies and paths through the wilderness, and upon the bank of the other sea opposite to China.

The rapid creation of the States of Ohio, Kentucky, Indiana, Illinois, and Missouri, carried forward the Union in a salient column, embracing the water-line of the great rivers and reaching here to the *geographical centre* in 1820! Up to that date the *flanks* had remained stationary in New York and Georgia.

The design *then* was to go through with the parallelogram of central States from sea to sea, and from this base to advance outward, planting States simultaneously towards the south and towards the north. This policy was crippled during the time of Mr. MADISON by the vicissitudes of foreign war. It was abandoned and reversed by Messrs. MONROE and ADAMS.

In their time grew up the political divisions of North and South, and a *maritime* policy inaugurated itself. Since that date, *central* progress has abruptly stopped, and great activity upon the flanks has brought them up to an even front in *Iowa*, and a greatly advanced position in *Texas*.

The *central* force has, however, *jumped* the continent straight to the front, occupied the sea-coasts of Oregon and California, and founded the new *maritime* power upon the Pacific and opposite to Asia.

Since the selection of the *site* of the city of Independence, in 1824, to 1854, a chasm in time of thirty years, *central extension* had rested on

stagnant as though our great river had been frozen at this point into solid and perpetual ice. It had been stopped by an artificial *cordon* of Indian tribes and federal law as effectually as by a continuous wall of brass extending from Louisiana to the 49th degree, and rising in altitude from the prairie foundation to the clouds.

Hence is seen the unique and novel sight of a great *continental empire*, formed of a circular shell of States traced round the circumferent seaboard, and surrounding a hollow and vacant disk of *desert* continent.

Such are at present the *theoretical* principles upon which *maritime* policy legislates for the great region of our country connecting the States of Missouri and California straight across.

The antagonistic struggle is between the *instinct* of progress plowing out its highway through the continent, along the *isothermal axis by land*, on the one hand, and, on the other hand, the external shell of *maritime* power to hold the continent in a *maritime hoop*, and subject its industrial greatness to an arrogant *sea-policy*.

In the great city of New York the active instinct of progress has always had a working vitality. Like Rome, she has pursued an elastic policy, and has planted her commercial colonies at the right time, and in the right spots. These colonies, of the first class, are New Orleans, Chicago, and San Francisco. With all of these she maintains or needs direct connections by steamers, railroads, and telegraphs, as also with Europe in the rear.

The time is rife for another selection, which offers itself in the centre of the Mississippi Basin! A key-point of centrality and radiance, and of unrivalled excellence. This is *Kansas City*, the metropolis of the Hemp Region.

This young and vigorous city, crowning the southern bank of the Missouri River at the point of the angle where it deflects to the *east*, beetles over the avenues to the prairies of the south and west, like Gibraltar at the Strait of Hercules.

It covers the rear of St. Louis, and confines her to the narrow field of the State of Arkansas. By the *through* railroad, coming by way of Chicago and Keokuk, crossing the Missouri River at Brunswick, and ascending the south bank, an air-line road exists of only fifty hours' time hence to New York City.

The river line of the Missouri, Illinois, and St. Lawrence deflects but little from an equal straightness and a similar distance in miles. Railroads passing onwards to Galveston into Texas and New Mexico, to San Francisco, Utah, and Astoria, will be the shortest lines from New York City to all these extremities and various regions of our continent.

Here will be found the shortest *diagonal* line wherewith to bisect the

productive territory and population of the Union towards the *southwest*, through the grain, hemp, and pastoral regions, to the sugar of Texas and the gold and silver of Mexico.

It is shorter to Galveston than any route traversing the *maritime* Atlantic States and bending with the sea-coast. It traverses a line of the greatest variety of production and largest distribution of groceries, dry goods, and manufactured metals.

This *hemp region* is not more celebrated for hemp than it is for tobacco, grain, blooded cattle, and wool; only this former production is not shared with surrounding regions, where the latter engross exclusive attention. The population of the *hemp region*, in 1850, was 202,413; the assessed property $105,449,655.

Here, then, is an immense and solid foundation wherefrom to grasp and control the expanding developments *in front*, consequent upon the obliteration of the Indian barrier, and the bursting forth of the pent-up flood of *central progress*, *out* over the prairies which undulate to Texas, Mexico, and the *Mountains*. The front wave of this flood-tide is already in motion; its spray sprinkles the *Plains* almost to the mountain foot.

The achievements of the coming *decade* of years will differ from its predecessor. It will exhibit a greater mass of energy, concentrated in one direction, occupied by a single object, and moving with immense means over a very short line, which is perfectly straight and open.

Heretofore the active force of *progress* has been operating round the rim of our territory, on Lake Superior, in California, in Texas, in Florida: in detached squadrons separated from the base of old society, by the diameter of the continent, or keeping up its communication round the circumference by *sea*. The opening *decade* beholds a concentric advance, flooding into the *centre* and reducing all movements to the shortest radii! Its career opens with a general force of 50,000,000 of population, having gold in hand, railroads, steamers, and rivers with prairies on their banks. The difficulties of the *wilderness* are overcome, the temptations every way increased, the means of motion enormously accumulated.

Such is the prosperous future which shines over the *central west*, and fills the atmosphere to the remotest horizon. This prospective view is not too sanguine, it is not exaggerated, it is only in moderate and appropriate proportion to the *material* long accumulating and now beginning to stir with activity through its whole reanimated bulk.

Sound health, complete preparation, fresh and mature vigor, judgment, and a defined and finite object, all blend themselves with the immense and successful movement which closes in to occupy the *centre* of our country, to reunite its flanks, and to adjust its true and *geographical* balances forever.

VII.

AN ORATION.

SPOKEN BY HON. WILLIAM GILPIN, TO THE GUESTS OF THE FENIAN BROTHERHOOD, AT DENVER, COLORADO, JULY 4, 1868.

LADIES AND GENTLEMEN, FELLOW-CITIZENS, EACH ONE AND ALL:—The return of Independence Day brings annually together, both at home and in foreign lands, the unanimous American people.

They unite to express and to renew the fire of devotion; to burnish afresh the holy flame which illuminated our natal hour; that hour when our sacred country was born to a mission of unparalleled liberty, virtue, happiness, and glory.

We everywhere invoke Heaven, as we surround the innumerable altars of patriotism, to fortify every heart and every will of our now multitudinous people; to tone and forever inspire them to perpetuate the foundations, the standard, and the work erected by the patriarchal fathers; to emulate their energetic works and virtues, plain in form, intense in fortitude, radiant with political charity and exalted wisdom.

The solemnity of this day instructs us to look abroad, with hearts softened by a great love, yet stern with resolution, over our vast country now encircled by the seas.

The august Congress of 1776 is seen, filled with heroic men, the choice of an heroic people. Wisdom, resolution, calmness, unanimity, sway and moderate their deliberations and their acts.

With unfaltering faith and self-reliance in the rectitude of their intentions and their cause, they pronounce the will of the American people resolved for Liberty and for Independence.

In condensed sentences, perfect for logic, simplicity, truth, and eloquence, they face and expel from the American continent tyrants and oppression; they summon and appeal to the virtue and sympathy of mankind.

Their resolutions and their acts, free from doubt, are equally daring, final, and complete.

In the rancorous and prolonged conflicts of war, essential to meet and

quell the implacable rage and avarice of power, was seen the same resolute will, a like impregnable endurance, an equal faith, the same unfaltering fidelity.

From this ordeal, sublime in all its acts and features, came forth a regenerated people. Regenerated! Because unanimously born to liberty, the menaces and blows of covetous power struck to dwarf its dimensions, to blunt its freshness, to wring subjugation from inflicted tortures, had been understood, resisted, and annihilated.

To LIBERTY WAS ADDED INDEPENDENCE. To liberty had accrued the supreme power of self-discipline, self-protection, self-rule, self-perpetuation!

But the Congress of 1776, having its origin and its authority from the unanimous will and power of the people, declared itself to be the "Continental Congress of the American people." In their name were erected and maintained a continental army; a continental marine; a continental currency; a continental cause.

Animated by the loftiest sentiments, unsullied by the meretricious taste for power, the profoundly wise and courageous charity which declared and established the independent liberty of the individual man, decreed also that the geographical area of the continent should be dedicated and sanctified to the exercise of his freedom.

Hence, from these preliminary triumphs, in harmony with them and spontaneously, sprang with ease the UNION OF THE UNITED STATES OF AMERICA.

Liberty, Independence, Union—these were the benignant fruits gathered and perpetuated by the American Revolution for the American people, and for the example of the human race forever.

From July 4, 1776, to the second election of Washington, fifteen years in time, that stupendous and benignant work had matured itself during the maturity of a single generation.

A continent cut loose and secured to a new society! A new society erected on fresh ground, novel in all its elements, even in the seed from which the plant first germinates! The oracular centre of political faith and power rescued from the huge city of London and transported beyond the ocean to the rural shores of the Potomac!

A complete and radical adjustment in the geographical foundations of human institutions was consummated.

Thought and speech were unchained, and the elasticity of mind disentangled; the daring spirit of inquiry set free from restraint; the rights of man, in practice, proclaimed and perpetuated; monarchy abolished; universal citizenship and self-government made perpetual; the artificial barriers erected by bigotry to restrict reason and progress, disappeared, and

the horizon all around was cleared to their unobstructed expansion and free vision.

From a whole people, thus disenthralled and impelled by the light and fire of universal intelligence, sprang the Constitution of the United States of America.

This constitution, in itself a sublime mental structure and edifice, marks a point of culmination in the struggles and the conflicts of all preceding time.

It registers a conclusive victory of the instinct of order, achieved and recognized. It marks a point of departure into the future, new and fresh as the continent which gives it birth. Condensed in size and form, it is comprehensively complete in its details and exact in its definitions.

Consolidated wisdom shines from it, as light and fire from the sun in nature. It provides for minute municipal governments, and commands self-denial, energy, concession, uniformity, and concord.

As in our holy religion we possess the Lord's Prayer, the divine text from which flow all other forms of supplication, and back into it, they are again condensed; so from the profound principles fixed in the Constitution, governments sound in form may erect themselves, expand to dimensions ample as the human family. They may be dwarfed or may decay, but never can finally perish or be lost.

Such is the splendid vision which arrests our attention and fills full our hearts with overpowering gratitude, when we devote this day to review the immortal acts and exalted wisdom of the people, of the statesmen, and of the soldiers of our patriarchal generation.

Let us remember that the fourth day of July, 1776, was a day of intense daring, of unparalleled sternness and resolution in its declarations and its acts.

By its antagonists it was maligned as intended to unbridle the furies and precipitate the world into infinite and devouring discord. Yet we cannot doubt, we who inherit and enjoy its benignant results and look out over a world regenerated by its oracles, that Divine Providence suffered their hearts to palpitate with His essence and tempered their judgments with His grace.

The life of a continental people, charged with an imperial mission, is long. Unlike human life, a pigmy in force and swiftly rushing to the grave, a vast people grows even on, aggregating and re-invigorated by each generation of men as it appears, matures, and then departs. The life of a nation has also its extreme vicissitudes, its alternating periods of obscurity and of brightness.

The second generation of American statesmen, whether dazzled by the

brilliancy of their fathers, or staggered to comprehend completely the profound changes, the rapidity, and the immense volume and novelty of their works; whether a certain awe of the past and recoil, dictated a time of lassitude and rest: yet this period is dimmed by the departure of the government out of harmony with the Constitution and the exalted declarations of '76.

The divinity of progress seemed to sleep: African slavery was expanded: territory was dwarfed by the loss of Oregon and Texas: all things were repressed under the monopoly of the Atlantic Sea.

The grand pioneer energies were arbitrarily curbed and emasculated; a meridian wall of Indians extended as a Bastile from the British northern to the Spanish southern frontier; the land-system crushed agricultural labor; immigration from Europe was discouraged; a bank dwarfed and destroyed money; immense deserts, stony mountains, an iron-bound sea, and death, were declared to form a fourfold and impregnable barrier to progress to the West.

A necessity to resume again the chains of semi-servitude and monarchy was proclaimed. Our immemorial continental mission, coequal with the grand geographical area and structure between the oceans, was lost to speech.

Adhesion to rancorous political parties of the North and of the South was alone permitted. Tyranny had re-entered among us.

What dismal years of civil war; what innumerable and heroic battles; what slaughter and unfathomable griefs; what sanguinary passions, were seen! How nearly was the precipice approached, whence the whole pyramid of our glories—Union, Independence, Liberty—should be precipitated and shattered in irreparable ruin!

It is here, and upon this day, that we are admonished by pious patriotism to reflect upon the consuming acrimony, rapine, and desolation of civil war; what positive policy or what lamentable neglect has subjected our country to its destructive torch, and engendered anywhere among our people a chronic and inplacable bitterness.

From hence, to ponder boldly, and to see if to avoid it might have been possible, and if its recurrence may be forever averted.

As I am now here permitted upon this anniversary to speak to the pioneers, surrounded by their conquests freshly won from the wilderness, and advancing with magic celerity; so twice before it has been my fortune to be with them on significant occasions.

On the Fourth of July, 1843, I was *here:* on this present *site* of Denver: one of a small, but resolute and intrepid camp. Here were Carson, Fremont, Fitzpatrick, Talbot. The American flag floated over us.

We had reached the western limit of the American territory, which then closed here in a pocket, formed by the summit of the Sierra and the current of the Arkansas River.

In front, beyond the setting sun, were unknown mountains, strange rivers, mysterious lakes, condemned by the uninstructed opinion of the world and proscribed by its laws,—an obscure and a foreign land.

Beyond there was an immense, silent, and unfrequented ocean: on its outward shore were hundreds of millions of Asiatic people, secluded and mysterious empires, barred from the world, and only known to exist.

This summer season, a wagon-road was opened, and blazed through and through from the Atlantic to the Pacific Sea. Our flag was baptized in the spray of the Pacific Ocean. The line of way travel round the world was revealed and proclaimed.

The truth of geography triumphed over the craft of politics; the mind of the laboring and industrial world awoke, palpitated with conquering fire, and struck for the emancipation of labor, for its exaltation and its power.

The cry for Oregon and Texas arose from the people. During the years of war with Mexico, what enthusiasm animated the pioneer armies, what unparalleled marches, victories, and explorations illustrated the ardent energies of our young soldiers! How complete the preparations made by them for the advancing power and forces of the people!

Our continental area was doubled; the American desert rolled aside; the vast system of the longitudinal mountains revealed in splendor and benignity; the prodigious arena of the Pacific thrown open, appropriated to America, and occupied in force and permanence! *Gold for the people was discovered and secured!*

To secure results so pregnant with empire, voluntary forces of occupation gathered to the Missouri River. Assembled, to the number of five thousand on the beautiful prairie where now stands the city of Lawrence, on the Fourth of July, 1849, I was invited to address them.

Suffer me to repeat here now some sentiments then spoken: "The region of gold and precious metals and stones is not limited, but is absolutely infinite. It is over the whole extent of that primary and volcanic formation extending from the Antarctic to the Arctic extremities of America, including in its expanse the Andes of South and of North America, the Sierra Madre and the Plateau.

"This abundance of the material of coin, wrought and developed by sober American industry, is about to be to the human race the supremest gift of divine beneficence.

"Has not the American cotton-culture obliterated harsh aristocratic dis-

tinctions in dress, and thus democratized the costume of society over the world? What cotton has done for equality in dress, the same will gold effect for individual equality in property and physical comforts!

"Study how the icy servitude of European feudal times has melted since the conquests of Cortes and Pizarro opened the sources from which portable personal property has exalted itself above fixed and immutable glebe lands!" And again:

"Unquiet for this sacred Union is this present time, when political power, about to cross the Alleghanies, see-saws on their crests, counting the days that precede her eternal transit over them! It is by the rapid propagation of new States, the immediate occupation of the broad platform of the continent, the aggregation of the Pacific Ocean and Asiatic commerce, that inquietude will be swallowed up, and the murmurs of discontent lost in the onward sound of advancement.

"Discontent, distanced, will die out. The immense wants of the Pacific will draw off, over Western outlets, the overteeming crops of the Mississippi Valley. The established domestic manufactures of clothing and metals will find, in our great domestic extension, that protection which they in vain seek to create by unequal legislation, nocuous and impracticable in our present incomplete and unbalanced geographical form.

"Thus calmly weighed and liberally appreciated, does this Continental Railway minister to the interests, and invite the advocacy and co-operation, of every section of our territory, and every citizen of our common country!"

Looking out at that day from this spot, the eye ranged round for a thousand miles over a silent wilderness, unpeopled and unsought for; beyond were sluggish people and inert societies. To-day, behold around us the magic creations of the pioneer energies! Seventeen new States and eight millions of new people surround us; planted over the area of that wilderness.

What an immense geography has been revealed! what infinite hives of population and laboratories of industry been electrified and set in motion! The great sea has rolled away its sombre veil. Asia is found and has become our neighbor. Her swarming multitudes, two-thirds of the population of the world, and absorbing four-fifths of the wealth and industry of mankind, assume motion and advance to meet us.

The world has faced about, and has found its true front.

North America is known to our own people. Its concave form and homogeneous structure are revealed. Our continental mission is set to its perennial frame, and the perpetuity of the American Union planted symmetrically upon its impregnable foundation.

Leaving behind the dual political parties on the selvage of the Atlantic Sea, we expand to the universal powers and fraternal sentiments of a continental people.

Vast geographical and social differences, strengthened by rivalry and variety, are blended, balanced, and united by permanent accord with the order of nature.

Slavery is radically abolished and exiled forever from the continents of America, Asia, and Europe. Universal citizenship, education, and intelligence create, expand, and perpetuate themselves.

The emancipated mind of the world, reinforced by numbers and new powers of self-government, marches with majesty and moderation from victory to victory.

Foreign conquests on American soil are at an end. America beholds a double human sacrifice: Maximilian for the decadence of the Old World; Lincoln for the renascence of the New.

In the littleness of mortality we may yet recognize the divine miracle, which closes the cycle of conquest and slavery in the world, that humanity may enter upon a new departure, illuminated by universal freedom.

A new and grand order in human affairs erects itself upon these immense concurrent disclosures and events. New powers appear, whilst old ones are condensed and made active.

Our stupendous system of longitudinal mountains and gold-bearing sierras is a majestic power. Our broad plains, immense valleys, and grand rivers, all parallel, longitudinal, arranged in compact concord, and filling full the temperate zone of warmth, are a power.

Our island form and intermediate position between the great oceans, and between Western Europe and Oriental Asia, are supreme powers. Our sister States and cities on the Pacific Ocean are a godlike power.

The American people, having their common home in the grand amphitheatre surrounded by the mountains and the external seas, will reach the highest moral standard to which unity of language and manner, combined with the genius of liberty, intelligence, and propitious climate, can elevate empires.

The moment is at hand when the traffic and travel of mankind—twelve hundred millions in the aggregate—will condense itself to ferries on the Northern seas and to transit roads.

These will be hugely multiplied in volume, and concentrated and developed here; because they have heretofore been dwarfed to nothing by the equatorial heats and the immense solitudes of the ocean circuit of the globe.

To accomplish this within a time reasonably rapid, the hoarded wealth of friendly Asia will be lavishly and generously bestowed.

We see united with us here to-day, what Europe has most worthy to be honored and remembered: the sons and daughters of the Emerald Isle; Teutonic men and women; the representatives of her other hundred States and peoples: they who have had the great faith and energy to leave her and come here, to unite themselves to us, to our country and our mission.

Free Europe flows to us and abides with us as fresh waters gather to the sea, whilst monarchy has returned to her wrapt in the mournful shroud of Maximilian.

It is thus that the great powers and forces of the external world gravitate to the Mississippi Basin and the mountains, with irresistible pressure and celerity.

It is proper that I speak here to-day and to this audience with unreserved sincerity and candor.

An exact and careful scrutiny will authorise the assertion, without fear to fail, that when the approaching centennial day of 1876 shall come, the American and Mexican people will be mutually harmonized and fused into one people.

Governments, withdrawn from the political foci of Washington and Mexico, will be condensed to the convenient and equitable geographical centre in the midst of the rural, the continental people, among the grand prairies and on the rivers of Kansas, remote from and intermediate between the oceans.

These events arrive. We are in the midst of them. They surround us as we march. They are the present secretions of the aggregate activities and energies of the people.

You, the pioneers of Colorado, have arched with this glorious State the summit ridge and barrier between two hemispheres. You bring to a close the unnumbered ages of their isolation and their hostility. You have opened and possess the highway which alone connects, fuses, and harmonizes them together. Of this State you are the first owners and occupants.

You have displayed to the vision and illustrated to mankind the splendid *concave* structure of our continent, and the infinite powers of its august dimensions, its fertility, its salubrious atmosphere and ever-resplendent beauty.

You have discovered the profound want and necessity of human society, and your labor provides for its relief: Gold—I mean; "the indefinite supply of sound money for the people, by their own individual and voluntary labor."

You occupy the front of the pioneer army of the people; absolutely the leaders of mankind, heading the column to the Oriental shores!

The mysterious crisis between the clashing continents and civilizations of the world, held and decided, three thousand years ago, by the three hundred Spartans at Thermopylæ, now rests with the geographical States and people of Colorado and Utah.

Geographical integrity is the oracle of salvation and safety. You are in danger of being partitioned by the Punic ambition of avaricious monopolies, and the covetous cities of the Atlantic Sea.

No fragment of the people of the North American Continent can thus suffer their geographical harmonies to be lost and perverted.

The mining pioneers of the Rocky Mountains, in vice untaught, yet skilled where glory leads to arduous enterprise, are fit to confront this crisis.

Often distinguished by your favor, a witness of your constant fidelity and courage, it is my duty to sound to you this alarm, to invoke and summon you to confront this danger with Spartan, with American will, unanimity, and victory.

Our great country has emerged from trials intensely exhausting and perilous. The energy and devotion of the people have not faltered either in defeat or victory. A cry of joy and admiration sounds over all the seas and all the continents and islands. The past is impregnably preserved—future progress safe, brilliant, and assured:

> "Night wanes, the vapors round the mountains curled
> Burst into morn, and light awakes the world."

Yielding our hearts to the vivid palpitations inspired by this day, and by the gathering glories of our country, so young and yet so great, let us pronounce to her this parting salutation:

Hail to America, land of our birth! Hail to her magnificent, her continental domain! Hail to her generous people! Hail to her victorious soldiers! Hail to her matrons and her maidens! Hail to the sacred union of her States! All hail to her, *as she is!* Hail to the sublime mission which bears her on, through peace and war, to make the continent her own, and to endure forever!

THE END.

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